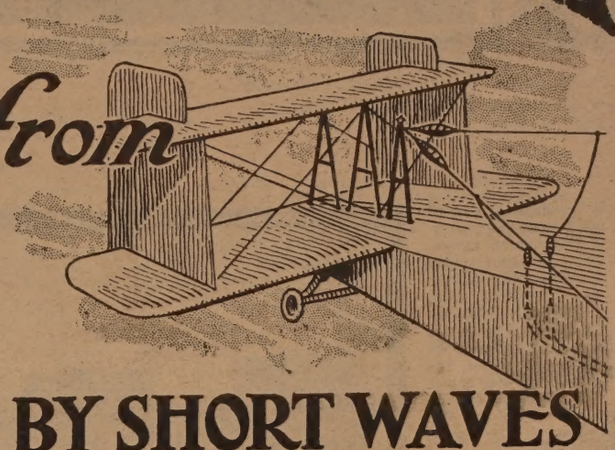
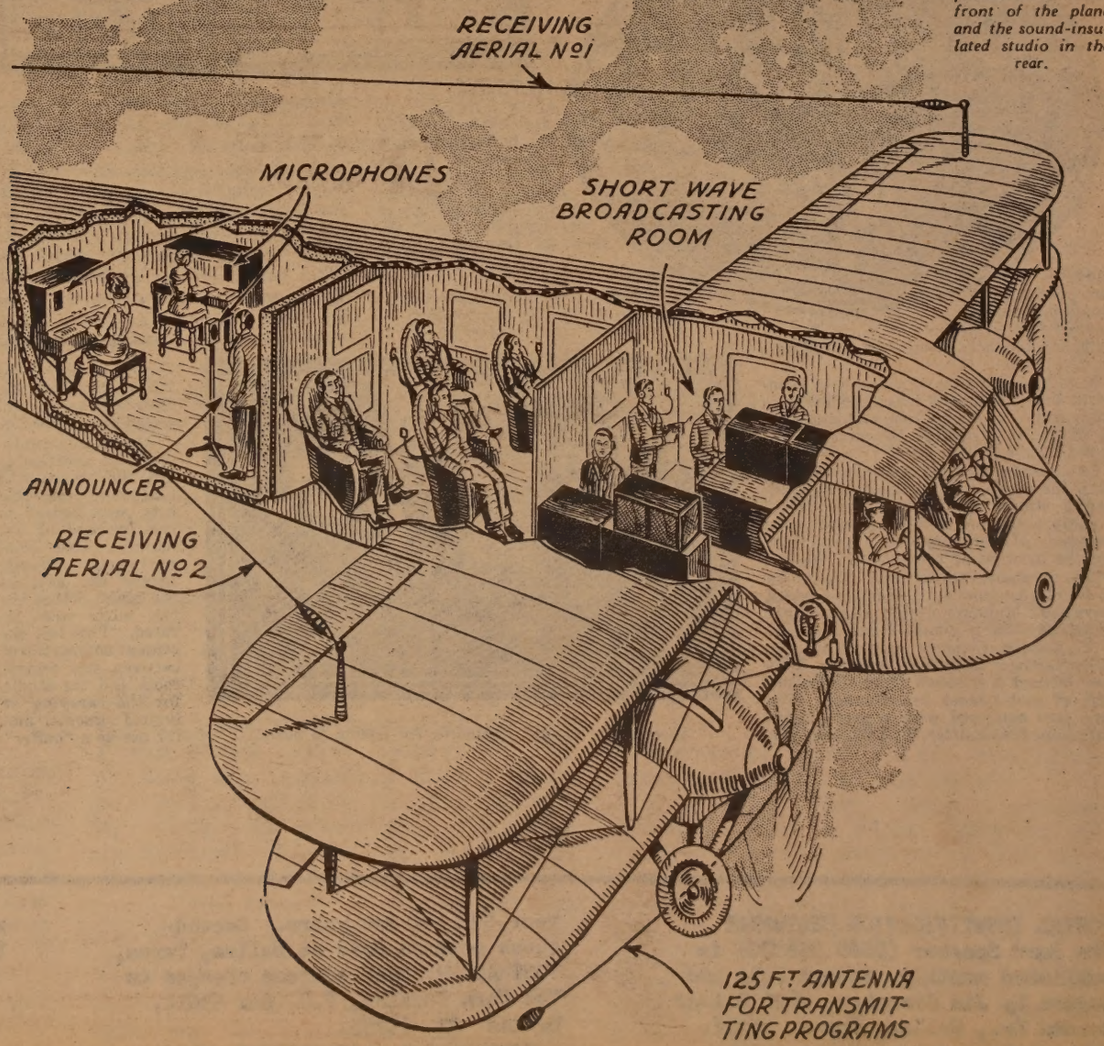
Vol.XI No.2 February 1982 Second class postage paid at Dallas, Texas
Publisher, Jim Cranshaw Monthly except July and August
Postal Identification Statement, page 2
Price $8.50 yearly Single issue $1.00
THE NEWSPAPER FOR THE HOBBYIST OF VINTAGE ELECTRONICS AND SOUND
THE HORN SPEAKER



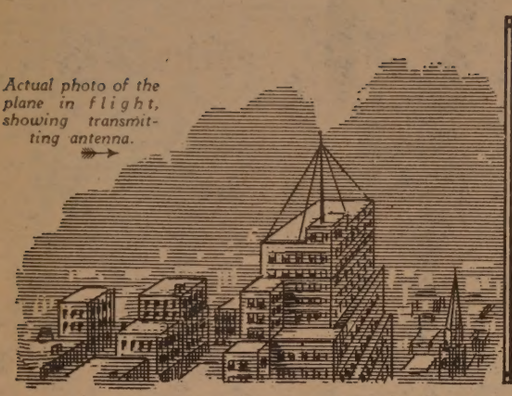
# MUSIC *from* THE AIR BY SHORT WAVES



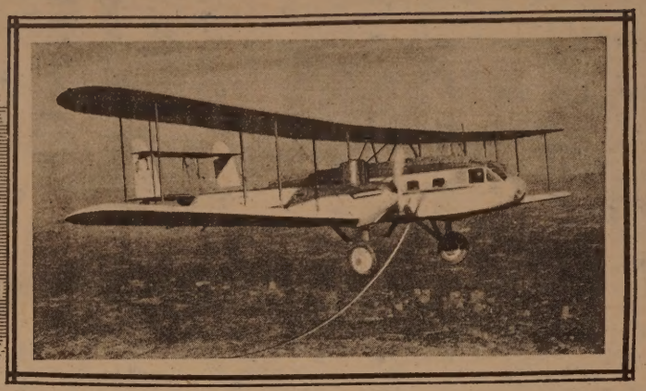





*The short wave apparatus was in the front of the plane and the sound-insulated studio in the rear.*



*Actual photo of the plane in flight, showing transmitting antenna.*



A NOVELTY in aviation broadcasts was accomplished on May 2, when Sandra Phillips and Peggy Keenan, red-headed two-piano team, presented their "Piano Pictures" program over WABC and the entire Columbia coast-to-coast network from an airplane hovering above New York at an altitude of 10,000 feet. As well as the music of their two pianos, a two-way conversation between the plane and a ground point was included as part of the broadcast, which marked another achievement in unusual short-wave broadcasts for Columbia.

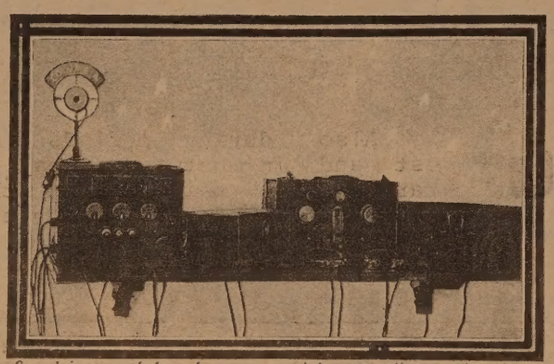
*Sandra Phillips and Peggy Keenan, whose piano duet was broadcast by short waves from a plane in flight.*

It will no doubt be of interest to readers to know how this was accomplished, and a technical description and engineering diagrams disclosing the methods employed follow.

Two things were essential; first, to equip the plane with a miniature broadcasting station and studio; and, second, to equip a suitable ground point for the reception of the airplane transmission and the location of the "cueing" station.

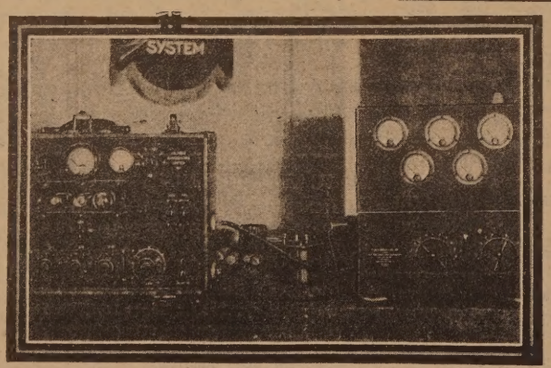
The airplane, which was piloted by the highly capable A. P. Kerr, Assistant Operations Manager of the Eastern Air Transport, was a giant 18-passenger *E. A. T. Curtiss Condor*, powered by two 625-horsepower Conqueror motors. This alone offered a problem from the standpoint of motor-noise interference. The plane was equipped with a portable 50-watt phone transmitter, W2XDZ, especially modified to pass all frequencies within the musical range. The power supply for the transmitter was furnished from a 1250-volt dynamotor which was driven by a 12-volt bank of storage batteries. Inasmuch as the drain on the batteries was quite heavy, it was necessary to float them across a 50-ampere generator.

A quarter - wave trailing transmitting antenna, 94 feet long and weighted at the end, was dropped through the floor of the cabin. The frequency used was 2,478 kilocycles. Before landing, the antenna was reeled in.



*Speech input and three short wave receiving sets at "ground" station.*

*One of the greatest short wave broadcasting stunts ever staged was recently accomplished successfully over the "Columbia" network, when a giant eighteen-passenger Curtiss Condor plane flew over New York City carrying entertainers, whose concert performed aboard the plane was picked up by short waves. The broadcast was then amblified by the ground station and fed to the network.*




*Short wave "cueing" transmitter for talking to plane.*

All of this equipment, in addition to the short-wave and long-wave receiving sets, was located in the forward of the plane's three compartments, directly behind the nose of the plane, where the two pilots were located. This left the center compartment between the control room and the studio for the carrying of invited guests and for use as a "buffer" compartment to help isolate any noise between the control room and the studio.

The studio, located in the rear compartment of the 58-foot long cabin, in order to be as far from the motors as possible, was entirely covered with ozite of three-inch thickness, heavily draped and carpeted. The two pianos used were of the small, "night-club" type, and the actual pick-up was made by suspending dynamic microphones inside the pianos. John Mayo, the announcer who worked in the studio with the piano team, was equipped with a special close-talking aviation type microphone. From this description it is evident that every possible precaution was taken to eliminate any outside noises whatsoever.

In order to accomplish the two-way conversation which was carried on during the program between Mayo on the plane and Paul Douglas at the Columbia Building in New York, Mayo was equipped with earphones, through which he monitored the entire program, including the conversation from the ground. The guests who made the trip were also equipped with ear-phones so that they could hear the entire program as it was broadcast over Columbia's New York station, WABC.

Including pilots, performers, engineers, and non-participating guests, thirteen persons in all made the flight.

The ground point layout, while not quite so intricate as the plane installation, still presented many problems, due to its location, on the roof of the Columbia Broadcasting System Building at 485 Madison Avenue, on the corner of 52nd Street, New York, in the midst of a number of metropolitan television and short-wave transmitters.

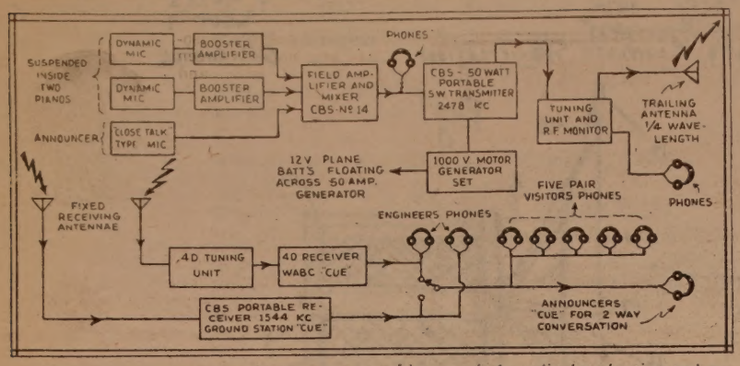
Three different types of short-wave receivers with specially tuned antennae and wave-traps formed a diversity system, being fed through a mixer and amplified so that perfect transmission from the plane could be depended upon at all times. Thus any objectionable fading was successfully eliminated. The reception was then amplified and transmitted by wire through the master-control room to the studio control room, at which point the ground announcer was located. The program, after passing through the studio control room equipment, was transmitted back to master control, over the regular facilities associated with that particular studio, and then to the entire network. At the same time, the program was sent back from the master control room to the station on the roof of the building, at which point it was transmitted over another portable short-wave station, W2XDY, transmitting on 194 meters, so that the engineers and the announcer in the plane would be sure to receive their "cues," in the event that their reception of WABC faded during the broadcast. This double assurance was provided so that, in the event of difficulties, the rest of the network would not suffer the loss of the program.

The diagrams furnished with this article show a complete layout of equipment as installed at both points. The installation of all the equipment was actually made twice, as a complete "dress rehearsal" of the program was made ten days prior to the actual broadcast. In the interim the plane was put back into regular passenger service on its E. A. T. run between New York and Atlanta.

**POSTAL IDENTIFICATION STATEMENT**
The Horn Speaker (USPS 956120) is published monthly, except July and August by Jim Cranshaw, 9820 Silver Meadow Dr., Dallas, Texas 75217. Subscription rates are $8.50 per year, $15.00 two years. Second-class postage paid at Dallas, Texas. POSTMASTER: Send address changes to The Horn Speaker, P.O. Box 53012, Dallas TX 75253.

Subscribers, advertisers, photographers and writers, please use the following address;
THE HORN SPEAKER
P.O. BOX 53012
DALLAS TX 75253

## Music from the Air by Short Waves

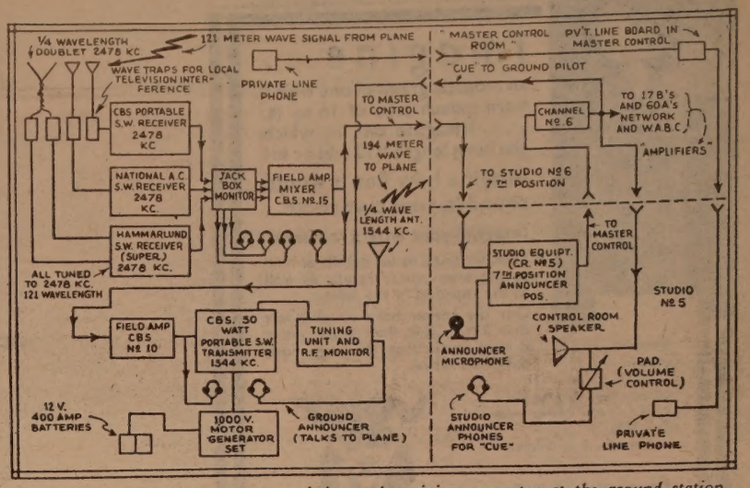

SUSPENDED INSIDE TWO PIANOS
DYNAMIC MIC
BOOSTER AMPLIFIER
DYNAMIC MIC
BOOSTER AMPLIFIER
ANNOUNCER
CLOSE TALK TYPE MIC
FIELD AMP. LIFIER AND MIXER CBS-No 14
PHONES
CBS - 50 WATT PORTABLE S.W. TRANSMITTER 2478 KC
TUNING UNIT AND R.F. MONITOR
TRAILING ANTENNA 1/4 WAVE LENGTH
12 V. PLANE BATTS FLOATING ACROSS 50 AMP. GENERATOR
1000 V. MOTOR GENERATOR SET
FIVE PAIR VISITORS PHONES
PHONES
FIXED RECEIVING ANTENNAE
ENGINEERS PHONES
40 TUNING UNIT
40 RECEIVER WABC "CUE"
CBS PORTABLE RECEIVER 1544 KC. GROUND STATION "CUE"
ANNOUNCERS "CUE" FOR 2 WAY CONVERSATION

*Line-up of the radio broadcasting and receiving apparatus installed aboard airplane.*

During the tests, Mr. Edwin K. Cohan, Columbia's Technical Director, carried on a two-way conversation from his office with Henry Grossman, Division Engineer of Columbia, who was in the plane and had charge of the technical set-up at that end. The installation was made in such a way that Mr. Cohan, sitting at his desk by a window, from which he could see the plane flying over the East River, could talk from his office over the ground "eueing" station. W2XDY, using no other microphone than his telephone handset, and give Mr. Grossman reports from time to time on the reception of the tests from the plane. As his loud-speaker was tuned in to the tests, Cohan could not only hear Grossman's voice broadcast from the plane, but his own conversation with Grossman as well.

Immediately after the conclusion of the broadcast, which was carried on for 15 minutes during the afternoon of May 2, highly favorable reports started to come in, and for several days after that congratulations were coming to Columbia in profuse quantities. Despite the fact that this was the most difficult aviation broadcast yet attempted, all reports agreed that it was entirely clear and most successful, due to the many thorough tests and precautions which were taken to assure the elimination of all interference.

Congratulations are due to the engineers who handled the broadcast: Messrs. Grossman, Thompson, and Gilbert of C. B. S., and Manley of the E. A. T. in the plane, and Messrs. Cohan, Bowman, Sponseller, Hillegas, and Butler at the ground station. With this, another unique short-wave broadcast has been concluded and added to the list of Columbia's trail-blazing broadcast events.


1/4 WAVELENGTH DOUBLET 2478 KC.
121 METER WAVE SIGNAL FROM PLANE
WAVE TRAPS FOR LOCAL TELEVISION INTERFERENCE
PRIVATE LINE PHONE
MASTER CONTROL ROOM
PVT. LINE BOARD IN MASTER CONTROL
"CUE" TO GROUND PILOT
CBS PORTABLE S.W. RECEIVER 2478 KC
TO MASTER CONTROL
CHANNEL No. 6
TO 178's AND 60A's NETWORK AND WABC
AMPLIFIERS
NATIONAL A.C. S.W. RECEIVER 2478 KC.
JACK BOX MONITOR
FIELD AMP. MIXER CBS No. 15
194 METER WAVE TO PLANE
TO STUDIO No. 6 7TH POSITION
HAMMARLUND S.W. RECEIVER (SUPER.) 2478 KC.
1/4 WAVE LENGTH ANT. 1544 KC.
TO MASTER CONTROL
STUDIO EQUIPT. (CR No. 5) 7TH POSITION ANNOUNCER POS.
ALL TUNED TO 2478 KC. 121 WAVELENGTH
STUDIO No. 5
CONTROL ROOM (SPEAKER)
FIELD AMP CBS No. 10
CBS. 50 WATT PORTABLE S.W. TRANSMITTER 1544 KC.
TUNING UNIT AND R.F. MONITOR
ANNOUNCER MICROPHONE
PAD (VOLUME CONTROL)
12 V. 400 AMP BATTERIES
1000 V. MOTOR GENERATOR SET
GROUND ANNOUNCER (TALKS TO PLANE)
STUDIO ANNOUNCER PHONES FOR "CUE"
PRIVATE LINE PHONE

*Arrangement of short wave transmitting and receiving apparatus at the ground station for the airplane broadcast.*

# Horn Contour

**continued** *by* **Bruce C. Edgar**

SB: What did you do after the failure of Voigt Patents, Ltd.?

VOIGT: I had various activities such as teaching electronics, consulting, etc. There was a period of employment while I was working in a lab of a firm that made office dictation machines using tape. This gave me the opportunity to gain first hand experience in tape recording research. Hardly Hi Fi, but very instructive all the same. I was very surprised at the distortion figures for slow tape speeds.

Unsuspected tape distortion may well explain why there are so many records which do not satisfy the ear when heard over really first class equipment. The highs are there, the lows are there, so is the mid-range, but they leave you dissatisfied. The sound of live music contains a satisfying richness which many records lack.

In my opinion, freedom from distortion is even more important than a wide frequency range. I regard a distortion free system with a range of 40 to 10,000 HZ as better than one which distorts appreciably even though its range might be 2 octaves wider and run from 20 - 20000. The target, of course, is full range without any distortion.9

Also during periods of rest and in between jobs, I started to think about the basic nature of gravity, electricity, etc., which were more than enough to keep me out of mischief.10

In 1960 I was employed with the Canadian Federal Government in radio regulations (anti-interference section). A very satisfactory time with that job was spent in the lab, developing test techniques, apparatus for direction finding, etc. This gave me a better understanding of the relationship between electricity and magnetism and the electromagnetic wave, etc. In 1970 I retired to a country dwelling in Brighton, Ontario with more time to concentrate on the riddles of the fundamentals of nature.

SB: Describe your meeting with Paul Klipsch in 1974.

VOIGT: At the 1974 Audio Engineering Society meeting in New York, I was asked whether I or Paul Klipsch were first with corner horns. As I was about to answer, the fellow with the mobile mike went over to some one in the audience section and I was saved from replying for he told the audience that "When he was applying for his patent my work was among that brought up against him." It was Paul Klipsch himself speaking.

From there I picked up and filled in details. I told the audience that after reading his first horn paper, I had sent a copy of our literature as I thought it would interest him. However I did not have his address and sent it to the organization that published the paper.

It was never acknowledged. So, I did not know if it had ever reached him and if he was very busy or simply impolite. He was able to reply that he had no recollection of receiving it, and so a question which had been in my mind for 30 years had been favorably answered. After the meeting he invited us all to lunch and later to see some slides.

Anyway Klipsch is no longer just a name to me, and the reason for not acknowledging the literature may well have been that it never reached him.

(Editorial note: Klipsch told me that he later tried to find out the exact claims that were held against him, but he said that those details could not be found in his patent papers. Also at this meeting Paul Voigt was made an honorary member of the Audio Engineering Society in recognition of his pioneering achievements in the pickup, recording and recording of sound.)11

SB: Can you review the progress of your Voigt speakers from the 30's to the 50's?

VOIGT: The 1929 cinema speaker had a flux density of 16,000 gauss across a 2mm gap with 40-50 watts field excitation. The axial length of the gap was about 5mm. In the latter 30's for our light coil twin diaphragm as used in the domestic corner horn, the gap was reduced to 1 1/2 mm. That improved the flux to 18,000 -

Imagine...

an acoustic gramophone with a horn mouth area of 16 sq. ft. . . . Imagine one in which the horn length is 12 feet or so!

Imagine how fine it would sound in your own room...

*Imagine your wife's remarks!*

Then write to us for details of how to get even better results as well as the approval of the ladies.

Our big corner horn occupies less than 2 ft. × 2 ft. floor space, yet it is even better than the huge horn indicated above.

*Illustrated above:*

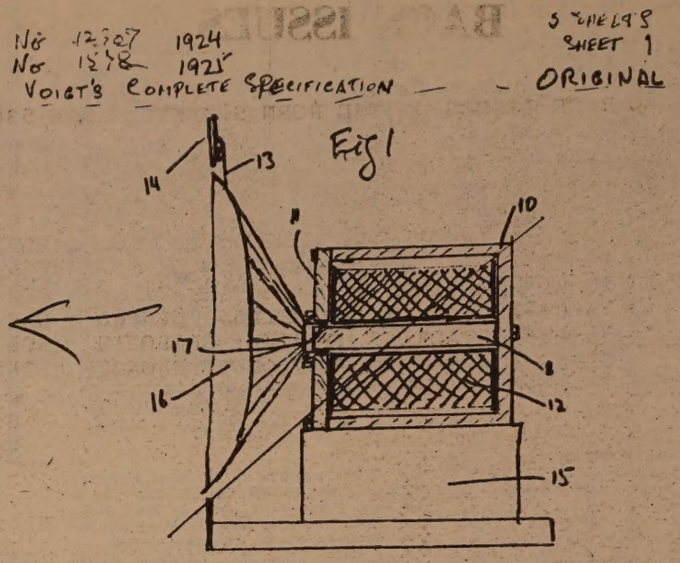
Cabinet Type Corner Horn. Price, "in the white," with D.C. Unit.
£32 . 5 . 0 ex Works

Also available: H.C. Type Horn with D.C. Unit.
£17 . 15 . 0 ex Works

Complete Lowther/Voigt Equipments at from under
£50 . 0 . 0

VOIGT

VOIGT PATENTS LTD.
THE COURTS, SILVERDALE, SYDENHAM, LONDON, S.E.26
*Sydenham 6666*
*Regd. Office: 22, Castle St., E.C.1*


19,000 gauss with the same excitation. At the end of the 40's with a new speech coil design I could go down to a 1 mm gap. By then we had a permanent magnet, but I had to design a 20,000 ampere-turn magnetiser to magnetise it. By 1950 the flux density was 22,000-23,000 gauss in prototypes. It never went into production because of the failure of Voigt Patents, Ltd.

SB: Do you have any advice for the testing of loudspeakers?

VOIGT: The final test should be the ear test. Some people are concerned with organ pedal tones, some with the clarity or edginess of cymbals and triangles. But the real test of a speaker system is male speech. If that sounds boxy, boomy or unnatural in any way, something is wrong somewhere. It may be in the studio or mike but if the same kind of unnaturalness persists on all program material the trouble is usually in the speaker or enclosure.12

And now, one more thing, go to a live concert in a hall where there is no PA gear occaisionally just to keep your ideas in line.13


Acknowledgements

I would like to thank the following people for their support in putting together this interview: Mrs. Ida Voigt for her generosity in loaning me original photographs and papers from Paul Voigt's files; Prof. Geoffrey Wilson for copies of Voigt's letters to wilson's father, Percy Wilson and for many conversations; Dr. Robert Edgar, Debe Arsenych, karen Olds and Celine Walker for tracking down many of the old references; Joe Paul for the fine phto-copying and retouching and Yvonne Owens for retyping many of Voigt's old letters.


THE INTERVIEWER

Dr. Bruce Edgar is a space scientist for the Aerospace Corporation and is a contributing editor for SPEAKER BUILDER in the areas of horn design and the history of loudspeakers.

(References to be continued)


9. Voigt, P.G.A.H., Text of Address to British Sound Recording Assn., Sept. 21, 1957.

10. _____, Velocity of Electromagnetic Waves and the Expanding Universe, Proc. I.E.E. (London), Electronics and Power, (March) pp 109, 1965.

11. 49th A.E.S Convention, J.A.E.S., 22, p 712, 1974.

12. P.G.A.H. Voigt, A Box for Your Speaker, Radio-Electronics, 30, pp 51, Jan. 1959.

13. _____, All About the Reflex, Radio-Electronics, 30, pp 82, Nov. 1959.



RADIO WEST presents

PHOTOS of your favorite RADIO STARS

These 8"x10" glossy prints are reasonably priced at $3.00 each.

Choose from more than 150 famous and not so famous radio personalities, from Fred Allen to Barton Yarborough. All prints are made from 4"x5" copy negs.

Send $1.25 (deductible from your first order) for a list and contact sheets of all pictures.

RADIO WEST

Box 598, HARBOR CITY, CA 90710

# BACK ISSUES Index

BACK ISSUES OF THE HORN SPEAKER, Box 53012, Dallas, Texas 75253

| date | title | author | class | k1 | k2 | k3 |
|---|---|---|---|---|---|---|
| 75-01-A | REPAIRING DYNAMIC CONES | VALLIULIS | REPAIR | SPEAK | CONES | 1934 |
| 75-01-A | THE DICTOGRAPH | THS | PHONOGR | DICTO | BUSIN | 1918 |
| 75-01-A | FIRST RADIO PHOTOGRAPH | THS | RADIO | PRINC | WALES | 1924 |
| 75-01-A | COLLINS' WIRELESS TELEPHO | THS | WIRELES | PIX | MADIS | 1908 |
| 75-01-A | TALKING MACHINE, EDISON'S | SCI AMERI | PHONOGR | ELECT | CYLIN | 1887 |
| 75-01-A | 1890 CONVENTION OF PHONOG | LIPPINCOT | PHONOGR | BUSIN | BOOK | 1890 |
| 75-01-A | FIND OF THE MONTH | C W VAVRA | RADIO | FIRST | EMERS | 1933 |
| 75-01-A | SUBSTI. OF TUBES | M STOSICH | RADIO | SOLID | STATE | 1975 |
| 75-01-A | THE CLASSIC RADIO | PUETT | RADIO | NORDE | ADMIR | 1933 |
| 75-01-A | JACK BENNY PIICTURE | THS | PROGRAM | PIX | DEATH | 1974 |
| 75-01-A | PICTURE OF SHIP WRECKS | THS | WIRELES | WIREL | SAVED | 1909- |
| 75-02-A | GUGLIELMO MARCONI | MARCONI | RADIO | SPEEC | HISTO | 1929. |
| 75-02-A | FIRST FULLTIME ANNOUNCER | POINDEXTE | PROGRAM | ARLIN | KDKA | 1921 |
| 75-02-A | EDISON'S PHONOGRAPH | SCI AMERI | PHONOGR | TIN F | EXHIB | 1878 |
| 75-02-A | THE CLASSIC RADIO | PUETT | RADIO | LITER | PUBLI | 1975 |
| 75-02-A | FIND OF THE MONTH | R E MASON | RADIO | FIND | TUBES | 1975 |
| 75-02-A | DICTOGRAPH AC-DC M 91134 | R C 1937 | RADIO | SCHEM | PIXS | 1937 |
| 75-02-A | REGENERATIVE | W HENRICK | RADIO | REGEN | METHO | 1975 |
| 75-02-A | CLUB NEWS ARGA SVRPS WVRD | THS | CLUBS | DISPL | FIRST | 1975 |
| 75-03-A | MY INVENTION - AUDION | DE FOREST | TUBE | TUBE | INVEN | 1922 |
| 75-03-A | CABINET WOOD | STANIFORD | CONSTRU | WOOD | HINTS | 1923 |
| 75-03-A | MESCO CATALOG ONE PAGE | THS | WIRELES | SPARK | GAPS | 1919 |
| 75-03-A | FINDS OF THE MONTH AK5 | HINKLE | RADIO | MILLE | SCOTT | 1975 |
| 75-03-A | CORRECT PLAYBACKS OF SPOT | R L POWER | PHONOGR | NEEDL | METHO | 1937 |
| 75-03-A | CLUB NEWS MARC SVRPS | THS | CLUB | ENLOW | MICRO | 1975 |
| 75-03-A | KINGS OF THE AIRWAYS | PUETT | RADIO | SCOTT | CUSTO | 1937 |
| 75-03-A | RADIETTE M. 90 | THS | RADIO | MIDGE | CATHE | 1931 |
| 75-03-A | HOWARD EXPLORER M 19 | R C 1934 | RADIO | SCHEM | SUPER | 1934 |
| 75-03-A | GREBE RADIO | THS | RADIO | PIXS | DIEHL | 1922 |
| 75-03-A | AUTOMOTIVE RADIO | RC 1932 | RADIO A | PIXS | AUTO | 1932 |
| 75-03-A | RADIO GERMAN | R C 1932 | RADIO F | TELEF | EASY | 1932 |
| 75-03-A | HOWARD EXPLORER MODEL W | R C 1934 | RADIO | CONSO | SCHEM | 1934 |
| 75-03-A | 12 TUBE ALL-WAVE SUPER | THS | RADIO | SHORT | SUPER | 1934 |
| 75-03-A | SIGHT AND SOUND TV SET | THS | TV | ANDRE | TABLE | 1939 |
| 75-03-A | MC MURDO SILVER | A HENRY | RADIO | HIST | BIOGR | 1929 |
| 75-04-A | THE NEW PHONOGRAM PAGE | THS | PHONOGR | JONES | SPENC | 1907 |
| 75-04-A | FANS OF YESTERDAY | ONE OF TH | RADIO | EARLY | METHO | 1905 |
| 75-04-A | TELEGRAPHONE | SCI AMERI | PHONOGR | DISK | WIRE | 1903 |
| 75-04-A | AMERICAN PONOGRAPH SOCIET | THS | CLUB | DECAL | BOOK | 1975 |
| 75-04-A | INDIANA SWAP MEET | THS | CLUB | SOUND | BUCKE | 1975 |
| 75-04-A | SOUTHWEST VINT RADIO SOC. | THS | CLUB | OLLA | PODRI | 1975 |
| 75-04-A | PHONO. W/ MULT. EARPIECE | THS | PHONOGR | DRAWI | SCI A | 1887 |
| 75-04-A | MC MURDO SILVER CONT. | A HENRY | RADIO | BIOGR | HIST | 1929 |
| 75-05-A | MICROPHONE R'S ELECT. EAR | T. ELWAY | RADIO | MICRO | HISTO | 1932 |
| 75-05-A | EDISON CYGNET HORN | THS | PHONOGR | CONST | DESCR | 1909 |
| 75-05-A | PHONOGRAM SHORT EXCERPTS | THS | PHONOGR | SONGS | MUSIC | 1909 |
| 75-05-A | FIND OF THE MONTH | A. MATT | RADIO | FADA | AK | 1975 |
| 75-05-A | THE CLASSIC RADIO | J. PUETT | RADIO | SCOTT | 800B | 1946 |
| 75-05-A | CLUB NEWS CHRS | THS | CLUB | BRICK | BRODI | CIRNE |
| 75-05-A | FIND OF THE MONTH | E BOESE | RADIO | TUBES | R NEW | 1975 |
| 75-05-A | BRITISH VINTAGE RADIO | THS | RADIO | BRITI | TUDOR | 1975 |
| 75-05-A | SCOTT DIES | THS | RADIO | H. H. | SCOTT | 1975 |
| 75-05-A | VICTROLAS 1918 | THS | PHONOGR | PHONO | VICTR | 1918 |
| 75-05-A | NEW READING - FLICK O T S | MC MAHON | RADIO | MORGA | MCMAH | 1975. |
| 75-05-A | WHERE, ARE THEY NOW | J RAPPEL | RADIO | CENSU | STATE | 1930 |
| 75-06-A | BERLINER'S TR. TELEPHONE | SCI AMERI | TELELPH | BERLI | CARBO | 1881 |
| 75-06-A | NEUTRODYNE, A GOOD WAY | THS | RADIO | TRF | ALIGN | 1975 |
| 75-06-A | CLUB MAARC BARPCC AWA SVR | THS..... | CLUB | SVRPS | MUSEU | 1975 |
| 75-06-A | ALEXANDERSON, R. P. DIES | THS | RADIO | MCDON | FESSE | 1975 |
| 75-06-A | CUSTOM BUILT FOR E. SCOTT | PUETT | RADIO | SCOTT | SPECI | 1975 |
| 75-06-A | SPEAKING WATCHES | SCI AMERI | PHONOGR | SPEAK | TIME | 1894 |
| 75-06-A | NOVEL RADIOS | R N 1925 | RADIO | CANDY | DOLLS | 1925 |

All back issues of THE HORN SPEAKER... 1975-1981 ... 75 cents each, postpaid.

# club news

INDIANA HISTORICAL RADIO SOCIETY and ANTIQUE WIRELESS ASSOCIATION

REGIONAL SPRING MEET, SATURDAY APRIL 17, 1982 at AUBURN, INDIANA.

at the AUBURN-CORD-DUESENBERG MUSEUM

PRE-REGISTRATION for the Banquet must be received before April 13, 1982. Banquet and registration is $13.50 each. Registration only at the Museum door is $2.50 per person. Make Banquet checks payable to I.H.R.S. and mail to Ross Smith, 1133 Strong Ave., Elkhart, IN 46514. Please make your own motel reservations at the L & K Motel 800-848-5767 or the STARLITE MOTEL 219-925-0500, both on SR 8W, Auburn, IN 46706.

ALL MEMBERS AND VISITORS ARE WELCOME!

Del Barrett & Ross Smith, Co-Chairmen

---

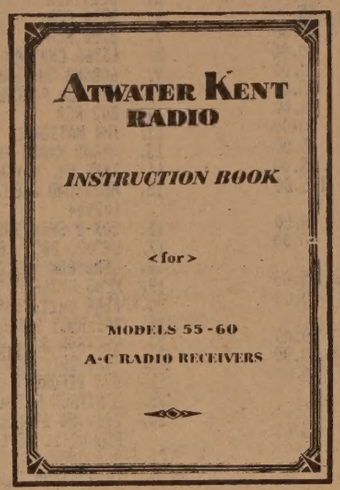

* SPECIAL - GENERAL SERVICE HEADPHONES $3.00 each or 2 pair for $5.00
* POWER XFMRS -- 300-0-300 V 90 MA. 5V AT 3 A, 6.3 V AT 3.5 A -- $15.00 EACH
* CRYSTAL SET ITEMS -- galena xtals ..$1.45 each -- cats whiskers (package of 2) ..$1.10 -- crystal detector .. $3.35 each ass'y with xtal -- Crystal detector asembly without crystal ..$2.00 each
* CAN'T PROVIDE WD-11s but we can provide WD-11s made with 864 mounted in WD-11 base. Works better than WD-11 -- $15.00 each or 2 for $25.00
* DIAL LAMPS -- many types, state your needs..25 cents each or any 5 / $1.00.
* NEED NAME PLATE OR ESCUTCHEON SCREWS? WE HAVE THEM. guage-0, 1/4" -- guage-0, 3/8" guage-1, 1/4" -- guage-1, 3/8" -- guage-2, 1/4" -- guage-2, 3/8" ... any 10 for 50 cents. Either round head or flat head. All brass.
* QLDE TYME RADIO TUBES tubes from the 20s, 30s, 40s, 50s, and 60s -- used and new -- all tubes guaranteed for 30 days -- write for a quote.
* EXACT REPLACEMENT RADIOLA II, VIII AND 26 LEATHER HANDLES ONLY .. $4.50 each or 2 for $8.50. Test equipment handles also available.
* SCHEMATIC FOR SETS MANUFACTURED FROM 1920 THRU 1946 .. $1.50 each.
* OLDE TYME BAKELITE TRIPLE POSTS -- singles .. 50 cents each or 3 for $1.00
* RESISTOR LINE CORD REPLACEMENT KITS: 4-tube set RLC-1 .. $3.50 -- 5-tube set RLC-2 .. $4.50.
* OLDE TYME WIRE - all cloth AK style -- 5-conductor battery cable ..$1.00/ft. -- 6-conductor battery cable .. 1.25/ft. -- brown silk type power cord .. .30/ft. -- single conductor hookup wire .. .12/ft. -- old style twisted power cord (for old fans and radio power supplies) limited quanity .. .45/ft. -- 20 DCC double wrap cotton insulation on solid copper wire. .. .10/ft. -- olde style no. 18 stranded copper wire. good for old style outdoor antenna. .. .12/ft.
* OLDE TYME AC PLUGS .. $1.10 each or 3/$2.95
* CAPACITORS
- 60 uf 250 V ELECTROLYTIC CAPACITORS axial leads 75 cents or 3 for $1.50.-- 10uf x 10uf at 450 V (small FP type) -- $1.00 each or 12 for $10.00 -- bypass ass'd all new and marked. Values from .001 to .5 uf rated at 200 V to 600V assortment of 20 .. $1.00 -- 40 uf X 40uf at 150V .. $1.75 or 2 for $3.00. -- 40uf X 40 uf at 450V ..$2.50 each or 2 for $4.50.
* OLDE TYME GRILLE CLOTH -- 4 patterns - 3 square feet. Write for information regarding type.
* TUBES SPECIAL -- 6F8, 38, 6C4 - all new in original boxes .. 50 cents each or 3 for $1.00 WE 717 with any order of $10.00 or more.
* FELT BACKED CLOTH (self stick) .. $1.50 square foot.
* REPLACEMENT CORDS (5 ft.) - Baldwin type headphone cords .. $4.25 each - Brandes type headphone cords .. $4.25 each - speaker cords .. $3.00 each - pinjack tips .. .25 each or 5/$1.00.
* MIL SPEC audios 211 good for Radiola III and IIIA used. Only a few left .. $2.50 each.
* ANT, RF and osc coils (new) .. $2.75 each
* IF transformers (new) .. $3.00 each (higher for special units - write)
* TOGGLE SWITCHES -- old style - round ball on short bat handle -- brass .. $1.75 each
* 6" FELT DISKS -- good for horn speaker bottoms (self stick) .. 50 cents each
* OLDE TYME RADIO SHIPPING POLICY We request that our customers send sufficent funds to cover shipping costs. Overages if under $1.00 will be credited to future orders-- or refunded if requested. Overages if over $1.00 will be returned with orders when shipped. Olde Tyme radio strives to fill all order within 48 hours after receipt. When items ordered are out of stock the order will be accepted and the customers notified as to when he can expect delivery unless the item is no longer available in which case his money will be refunded. All orders weighing 6 ounces or less are shipped by U. S. Mail. Orders weighing over 6 ounces are shipped by U.P.S. unless the customer directs otherwise.

OLDE TYME RADIO -- 2445 Lyttonsville Road, Silver Spring, Maryland, 20910
(301) 585-8776

# PUETT ELECTRONICS

P.O. BOX 28572 DALLAS TX 75228

NEW



THE ATWATER KENT RADIO SERVICE MANUAL - 1924 TO 1932 - 520 PAGES - $44.95 POSTPAID

WE CAN FURNISH CUSTOM SCHEMATICS AND TECHNICAL SERVICE DATA FROM THIS BOOK ON THE FOLLOWING MODELS - $3.00 ea.
Breadboards 10, 10B, 12; 20 (4640), 20 (7570), 20 (7960), 30, 32, 33, 35, 36, 37, 37C, 37F, 38, 40, 40F, 41, 42, 42F, 43, 44, 44F, 45, 46, 47, 50, 52, 53, 55, 55C, 55F, 56, 57, 60, 60C, 61, 61C, 66, 67, 67C, D, F, H, L, P, Q, 80, 80F, 81, 81B, 81C, 82, 82D, 82F, 82Q, 83, 83F, 84, 84D, 84F, 84Q, 85, 85F, 85Q, 86, 86F, 87, 87D, 89, 89F, 89P, 90, 90F, 92, 93, 94, 94F, 96, 96F, 99, 99F, 99P, 135Z, 155, 165, 206, 215Z, 217D, 237Q, 246, 275, 285Q, 286, 305Z, 317, 318, 328, 337, 356, 376, 385Q, 415Q, 424, 427D, 435, 447, 467Q, 475, 511 Tune-O-Matic, 545, 555, 565Z, 577, 625Q, 649, 670, 711, 735, 776, 808A, 854, 856, 976, Type R Power Unit, Magnetic Speakers - Horn, Types E & E2, Types N, N3, J, JB, Phonograph unit.

In addition to technical data & schematics for the above listed models, the AK RADIO SERVICE MANUAL also contains a special 47-page THEORY SECTION applicable to Atwater Kent receivers.

THE ATWATER KENT RADIO SERVICE MANUAL - THEORY SECTION ONLY - 45 PAGES - $6.95 POSTPAID

ATWATER KENT ELECTRICAL VALUES OF RESISISTORS AND CONDENSERS 1924 TO 1932 - 24 PAGES - $4.95

AK PART NUMBERS VS. ELECTRICAL VALUES OF FIXED CONDENSERS, DRY ELECTROLYTICS, FILTER CONDENSER ASSEMBLIES, WIRE WOUND RESISTORS, RF & IF CHOKES, AF TRANSFORMERS, VOLUME CONTROLS, VALUES OF MANY OTHER COMPONENTS IN SPECIFIC RECEIVERS BY THE MODEL NUMBER - PROFUSELY ILLUSTRATED.

ATWATER KENT INSTRUCTION BOOK - FOURTH EDITION - 1927 - 47 PAGES - $6.95
Sections include - AK Radio Speakers, Installation, Antennas, Installing The Receiving Set, Connecting A, B, & C Batteries, Operation, Improving Reception, Maintenance, Causes of Poor Reception, Causes of Disturbing Noise, MODELS 30, 32, 33, 35, & 50.

ATWATER KENT INSTRUCTION BOOK FOR MODELS 55 & 60 AC RADIO RECEIVERS - 12 PAGES - $2.95

Sections include - General Information, Parts Packed With Receiver, Equipment Required, Installing Antenna and Ground, Preliminary Procedure, Operation, Maintenance, Additional Information, Suggestions In Case of Trouble - well illustrated.

REPRODUCTION BY HIGH-QUALITY PHOTOCOPY.

# RADIO AMERICANA

Dealers in Early Radio Items

P.O. BOX 161 WEST HURLEY, N.Y.12491

OLD RADIOS--

| | | |
|---|---|---|
| 1. | AK SECRETARY DESK. VERY GOOD, BUT NEEDS GRILL. | $200.00 |
| 2. | AK OCTAGONAL TABLE RADIO. VERY GOOD. | 200.00 |
| 3. | RADIOLA 28 W/LOOP. VERY GOOD. HAS BASE IF YOU WANT IT. | 125.00 |
| 4. | RADIOLA 25 W/LOOP. EXCELLENT. | 150.00 |
| 5. | FRESHMAN FLOOR MODEL. EXCELLENT. | 60.00 |
| 6. | DEFOREST D12 W/LOOP. LEATHERETTE FINISH. EXCELLENT. | 275.00 |
| 7. | CROSLEY TRIRDYN 3R3. VERY GOOD. | 75.00 |
| 8. | W.E. AMPLIFIER 7A. EXCELLENT. | 75.00 |
| 9. | ARBORPHONE MODEL 27. VERY GOOD. | 60.00 |
| 10. | FRESHMAN W/INTERNAL SPEAKER. NO LID-OTHERWISE EXCELLENT | 45.00 |
| 11. | STEWART WARNER MODEL 300. EXCELLENT. | 50.00 |
| 12. | SONORA TWIN DIAL. FAIRLY GOOD. | 30.00 |
| 13. | KIT RADIO. 5 TUBER - 3 DIALS. TRF. VERY GOOD. | 25.00 |
| 14. | AK MODEL 33. VERY GOOD. | 55.00 |
| 15. | MICHIGAN RADIO IN HOMEMADE CASE. PRETTY. | 60.00 |
| 16. | STANDARDYNE. NO LID BUT OTHERWISE EXCELLENT. | 50.00 |
| 17. | AK 35. VERY GOOD. | 30.00 |
| 18. | AK MODEL 20 COMPACT. EXCELLENT | 75.00 |
| 19. | AK MODEL 20 COMPACT. GOOD | 60.00 |
| 20. | GENERAL INSTRUMENT 6 TUBER-3 KNOBBER. GOOD. | 50.00 |
| 21. | RADIOLA III. FAIRLY GOOD. | 45.00 |
| 22. | CROSLEY 51. GOOD. | 85.00 |
| 23. | RADIOLA IIIA. VERY GOOD. | 115.00 |
| 24. | KELSO. 6 TUBER PLUST 1928 LETTER ON HOW TO MAKE IT PLAY BETTER. VERY GOOD BUT NEEDS 2 FOOT PADS. | 45.00 |
| 25. | FADA MODEL 192A NEUTRALETTE. VERY GOOD. | 60.00 |
| 26. | FREID EISMAN MODEL 50. TOP FINISH HAS SOME BAD SPOTS. TOO HEAVY TO GO UPS. | 65.00 |
| 27. | AK MODEL 20 STANDARD. NEEDS REFINISHING. | 40.00 |
| 28. | COMMERCIALLY MADE 3 KNOBBER. LOOKS LIKE FRESHMAN BUT HAS NO NAME. HAS CARD IN LID. VERY GOOD. | 40.00 |
| 29. | KOLSTER 6D. LOOKS GREAT BUT MAIN TUNING IS SLIPPING. | 20.00 |
| 30. | PHANSTIEHL MODEL 30. EXCELLENT. | 60.00 |
| 31. | W.E. 25B AMPLIFIER. WITH TWO TUBES. SOME PEOPLE SAY THE VOLUME CONTROLS ARE NOT ORIGINAL. LOOKS EXCELLENT. | 45.00 |
| 32. | SILVER COCKADAY SINGLE CONTROL RADIO. VERY GOOD. | 55.00 |

ELECTRIC RADIOS.

| | | |
|---|---|---|
| 1. | PHILCO MODEL 511 W/MATCHING SPEAKER. EXCELLENT BUT HAS ONE KNOB MISSING. | $ 60.00 |
| 2. | AK MODEL 36. GOOD W/PWR SPLY. | 75.00 |
| 3. | PHILCO MODEL 84 ROUND TOP CATHEDRAL. MEDIUM SIZE. WORKS. | 75.00 |
| 4. | AK MODEL 44. EXCELLENT. | 65.00 |
| 5. | AK MODEL 40. VERY GOOD. | 45.00 |
| 6. | AK MODEL 40. FAIR. | 20.00 |
| 7. | SILVERTONE 1954X FLAT TOP. GOOD. | 30.00 |
| 8. | AIRLINE. SMALL FLAT TOP. CUTE. | 30.00 |
| 9. | RADIOLA 18. GOOD, BUT NO HOOD FOR DIAL LIGHT. | 25.00 |

VINTAGE HAM GEAR.

| | | |
|---|---|---|
| 1. | GONSET GC105 2 MTR XCVR. GOOD | $ 25.00 |
| 2. | NATIONAL SW 54 RECEIVER. EXCELLENT. | 45.00 |
| 4. | HEATH DX35. VERY GOOD BUT KNOBS NOT ORIGINAL. | 30.00 |
| 4. | HEATH VF1 VFO. VERY GOOD. | 12.00 |
| 5. | HEATH HW22 20 MTR XCVR. VERY GOOD. NO PWR SUPPLY | 50.00 |
| 6. | HEATH HG 10 VFO. EXCELLENT W/PWR SPLY. | 20.00 |
| 7. | BLACK WIDOW 6 MTR XCVR. GOOD W/MANUAL | |
| 8. | DRAKE 2C RECEIVER. EXCELLENT. | 70.00 |
| 9. | DRAKE MS4 SPEAKER. EXCELLENT. | 40.00 |
| 10. | HEATH TWOER (BENTON HARBOR LUNCH BOX) VERY GOOD | 15.00 |
| 11. | BC 348 RECEIVER. GOOD. | 25.00 |
| 12. | HALLICRAFTER R46B SPEAKER. EXCELLENT | 40.00 |
| 13. | HALLICRAFTERS SX99. VERY GOOD. | 60.00 |
| 14. | HALLICRAFTERS S108 RECEIVER. FAIRLY GOOD. | 35.00 |
| 15. | EICO MODEL 720 CW TRANSMITTER. FAIRLY GOOD. | 15.00 |
| 16. | SWAN MODEL 175 TRANCEIVER. (75 MTRS). VERY GOOD. | 55.00 |
| 17. | HEATH DX 40. REPAINTED FRONT PANEL. GOOD. | 15.00 |
| 18. | MOSLEY CM1 RECEIVER. W/MANUAL. VERY GOOD. | 60.00 |
| 19. | EICO MODEL 753 TRI BAND XCVR. W/SPKR AND PS. | 70.00 |
| 20. | DRAKE 2NT CW TRANSMITTER. EXCELLENT W/MANUAL | 60.00 |
| 21. | GONSET GC76 DC MOBILE PWR SPLY. FAIRLY GOOD. | 15.00 |
| 22. | COLLINS 310B EXCITER. NEAR MINT W/MANUAL | 100.00 |
| 23. | HEATH SB300 RECEIVER. VERY GOOD. | 125.00 |
| 24. | HEATH DX100. VERY GOOD. PICK UP ONLY. | 45.00 |
| 25. | JOHNSON RANGER II TRANSMITTER. VERY GOOD. | 125.00 |
| 26. | CLEGG ZEUS TRANSMITTER. 6 AND 2 MTRS. TO HEAVY FOR UPS. | 70.00 |
| 27. | NATIONAL NC 98 RECEIVER. VERY GOOD. | 55.00 |
| 28. | NATIONAL SPEAKER. (FOR HRO 60?) EXCELLENT. | 40.00 |
| 29. | ABBOTT INSTRUMENTS MODEL TR4 ULLTRA SHORT WAVE XCVR. | 40.00 |
| 30. | ELMAC A54H TRANSMITTER. GOOD. | 20.00 |
| 31. | VINTAGE HAM SPEAKER. HAS 10" JENSEN AND MAY BE FOR EARLY HAMMARLUND RECEIVERS. EXCELLENT. | 40.00 |

SHIPPING TERMS.
ADD $5 PER LARGE CARTON FOR PACKING AND HANDLING. UPS FOR ITEMS UP TO 50 LBS. LARGE ITEMS MUST BE PICKED UP OR BUYER MUST PAY CRATING FOR TRUCK SHIPMENT. BUYER PAYS ALL SHIPPING COSTS.

VINTAGE TUBES. (AS OF 12/31/81)

| | | |
|---|---|---|
| 1. | PHOTO CELL. 962-PD-5 SILVER. ANODE CAP POINTS DOWN ON SIDE. | $25.00 |
| 2. | UV 201A RCA/W BBT GF | 18.00 |
| | OF | 10.00 |
| | IN BOX --GF | 20.00 |
| 3. | UV200 RCA BBCT GF | 15.00 |
| | OF | 10.00 |
| | IN BOX --GF | 17.00 |
| 4. | W.E. 388A | 10.00 |
| 5. | 3E29 RCA | 12.00 |
| 6. | 832A RCA | 20.00 |
| 7. | 829B RCA | 15.00 |
| 8. | 6336A CHATHAM | 5.00 |
| 9. | 6080WA CHATHAM | 5.00 |
| 10. | 809 RCA PORCELAIN BASE. | 7.00 |
| 11. | 802 RCA | 4.00 |
| 12. | 1H4 NATIONAL | 4.00 |
| 13. | AMRAD KARBO TUBE. | 12.00 |
| 14. | TYPE BH. RAYTHEON BBCT | 20.00 |
| 15. | MOORHEAD LABS. S.F. 102164 OF | 40.00 |
| 16. | 20X-B SHAW BASE BBCT GF | 40.00 |
| 17. | UV202. BBCT GF | 25.00 |
| 18. | KENOTRON UV216 BBT RED GF | 35.00 |
| 19. | KENO UV216 BBT AMBER GF | 35.00 |
| 20. | KENO UV216 BBT GF | 30.00 |
| 21. | NRG BBCT SHAW BASE GF | 50.00 |
| 22. | RECTRAN 216B. MB OF | 10.00 |
| 23. | VT14 BBT SHAW BASE GF | 40.00 |
| 24. | DV2 DEFOREST. CHROME GF | 40.00 |
| 25. | SONOTRON RF201A GF | 15.00 |
| 26. | 201. NO BRAND. LOOKS LIKE BIG WD12. (SPEED?) MB | 10.00 |
| 27. | PLIOTRON PR 1C. BBT GF | 20.00 |
| 28. | CUNNINGHAM 301A BBT GF | 22.00 |
| 29. | SUPER AIR LINE 201A GOLD OF | 10.00 |
| 30. | VT1 W.E. W/PATINUM FIL. GF | 40.00 |
| 31. | WD12 RADIOTRON BBCT GF | 30.00 |
| | SHORTED FIL. | 20.00 |
| | IN BOX. GF | 40.00 |
| 32. | CUNNINGHAM C12 BBCT GF | 30.00 |
| 33. | CG 1162. BBCT GF IN BOX | 50.00 |
| | GF | 40.00 |
| 34. | MOORHEAD AUDION. S.F. 2996 | 50.00 |
| 35. | VT11 NRG BBCT GF | 40.00 |
| 36. | VT3 NO BASE. ONE WIRE GONE | 15.00 |
| 37. | ER 505267 BBCT SHAW GF | 30.00 |
| 38. | UNUSUAL BBCT SHAW BASE SHORT FAT BULB. WIRE PLATE AND LONG FILAMENT. EARLY PLIOTRON? GOOD FIL. | 60.00 |
| 39. | W.E. 216A DOORKNOB. GF | 25.00 |
| 40. | WIRELESS. LOOKS LIKE A KELLOGG 401. BRITISH? | 15.00 |
| 41. | WD11 BBCT GF IN BOX | 40.00 |
| | OF | 22.00 |
| 42. | W.E. 205D DOOR KNOB GF. | 18.00 |
| | OF | 10.00 |
| 43. | W.E. 215A IN ORIG BOX GF | 40.00 |
| 44. | UV 199 BBCT GF | 22.00 |
| | OF | 12.00 |
| 45. | UV 199 BB GF | 15.00 |
| 46. | UV 199 MB GF | 12.00 |
| | OF | 5.00 |
| 47. | WD12 MB GF | 15.00 |
| | OF | 7.00 |
| 48. | UX 199 MB GF | 10.00 |
| 49. | WD11 RCA MB GF | 27.00 |
| | OF | 12.00 |
| 50. | 6E5 MAGIC EYE. | 10.00 |
| 51. | 230 RADIOTRON GF | 25.00 |
| 52. | 430 DEFOREST GF | 29.00 |
| 53. | 120 RADIOTRON GF | 12.00 |
| 54. | C300 CUNNINGHAM BBCT GF | 18.00 |
| | IN BOX MB GF | 8.00 |
| 55. | SX210 SYLVANIA. GF | 12.00 |
| 56. | APCO TWIN FIL IN BOX. GF | 30.00 |
| 57. | DV5 DEFOREST. PORCELAIN BASE. GF | 25.00 |
| 58. | WX12 RADIOTRON. MB GF | 12.00 |
| 59. | WD11 GOLD BOND. MB OF | 13.00 |
| 60. | 201A EXCELTRON BB GF | 15.00 |
| 61. | DV2 DEFOREST. PORC BASE OF | 12.00 |
| 62. | 201A GLORIA. MB UV PINS GF | 12.00 |
| 63. | VT143 UNITED ELEC. (805) | 15.00 |
| 64. | 811 RCA | 15.00 |
| 65. | HY615 HYTRON DUAL CAP HF | 12.00 |
| 66. | KELLOGG 401 AC | 20.00 |
| 67. | KELLOGG 403 AC | 30.00 |
| 68. | UV201 RADIOTRON BBCT GF | 35.00 |
| 69. | OF | 15.00 |
| 70. | TYPE B RAYTHEON. BBCT | 25.00 |
| 71. | TYPE BH RAYTHION. BBCT | 20.00 |
| 72. | TYPE AQ MAJESTIC SUPR PWR. | 10.00 |
| 73. | CX310 SYLVANIA. GF | 12.00 |
| 74. | 201 BRIGHTSON TRUE BLUE | 35.00 |
| 75. | W.E. 242A | 20.00 |
| 76. | W.E. 102B MB GF | 30.00 |
| 77. | W.E. 217A UV PINS LONGER GF | 25.00 |
| 78. | W.E. 217A UV BASE SCRATCHED | 25.00 |
| 79. | VT2 W.E. 55688 GF | 40.00 |
| 80. | VT2 W.E. 53059 GF | 40.00 |
| 81. | VT2 W.E. 827721 4.8 GF | 30.00 |
| 82. | 205B W.E. GLASS ARBOR IN SIDE BULB IS BROKEN. GF | 20.00 |
| 83. | 205E W.E. MB GF | 20.00 |
| 84. | 101F MB 1391 C GF | 30.00 |
| 85. | 101C GF | 35.00 |
| 86. | DOORKNOB. UNKNOWN BRAND HAS HORIZONTAL PLATE. BBCT. BASE HAS BEEN NICELY REGLUED BOTTOM PLATE IS UV W/COMP INSERT. FAINT NUMBERS CAN BE SEEN. P 400345 OCTECTOR? | 50.00 |
| 87. | OSGLIM. ENGLISH. BULB WITH STANDARD SIZE SCREW IN BASE | 15.00 |
| 88. | TUNGAR BULB. GE | 15.00 |
| 89. | TINY CLEAR GLASS RECTIFIER? SCREW IN BASE-STANDARD SIZE. BULB IS SMALLER THAN A PING PONG BULB. ONLY MARK 445V | 12.00 |
| 90. | TUNGAR BULB. GE. SMALLER THAN ABOVE. | 18.00 |
| 91. | UNUSUAL LITTLE BULB. IS 2" HIGH- 1/2 " DIAM. BAYONET BB. 3 WIRES LOOP UP AND BACK DOWN AND FASTEN TO A PIECE OF GALENA CRYSTAL. A DET.? | 35.00 |
| 92. | PRIMATIVE HOME EXPERIMENT TUBES. ARE VERY CRUDE. CORK AND BEESWAX SEALS. 4 PIECES | 10.00 |
| 93. | RCA PHOTO CELL TUBE. LIKE NEW. TYPE 930. | 5.00 |
| 94. | PHOTO CELL. GOLF BALL SIZE. | 5.00 |
| 95. | AS ABOVE. ONE PIN MISSING. | 3.00 |
| 96. | LARGER BULB THAN ABOVE. | 10.00 |
| 97. | W.E. 3A PHOTO CELL 30298. NEEDS GLUE TO TIGHTEN BASE | 20.00 |
| 98. | EVEREADY RAY KINO LAMP C25 | 15.00 |
| 99. | ZETKA PHOTO CELL. LABELED 553 6/28/29 | 10.00 |
| 100. | XK17E RAYTHEON. | 12.00 |
| 101. | SAME SHAPE AND SIZE AS ABOVE BUT LOOKS LIKE BALLAST TUBE AND IS 4 1/2" HIGH. | 5.00 |
| 102. | AS ABOVE BUT HAS LONG THIN 4" GLASS EXTENSION AT TOP | 10.00 |
| 103. | 201A'S AND 01'S. MB GF EACH OR 20 FOR $100. ADD $2 PER TUBE FOR GOOD EMMISSION TEST. | 6.00 |
| 104. | TUBULAR AUDION. NO MARKS | 100.00 |
| 105. | TYPE 112'S AND '71'S GF | 6.00 |
| 106. | W.E. 211E GF | 20.00 |
| 107. | W.E. 211D GF | 20.00 |
| 108. | TYPE BH IN BOX. RAYTHEON | 5.00 |

TERMS

ALL ITEMS ARE SOLD "AS IS" AND "AS FOUND". NOTHING IS CLAIMED TO BE IN WORKING ORDER UNLESS SPECIFICALLY STATED TO BE WORKING. CONDITION IS STATED IN BROAD TERMS. NO "JUNK" UNLESS SO STATED. BATTERY SETS PRICED UNDER $125 ARE WITHOUT TUBES. ELECTRIC SETS AND HAM GEAR INCLUDE TUBES. ALL SETS AND SPEAKERS ARE COMPLETE WITH NO SIGNIFICANT MISSING PARTS. M.O. OR CASHIERS CHECKS PREFERRED. PERSONAL CHECKS OK BUT ALLOW FOR A TWO WEEK DELAY IN SHIPMENT. YOU MAY CALL FOR INFO OR TO RESERVE YOUR ORDER. CALL EVENINGS OR WEEKENDS 914-679-8723

HORN SPEAKERS

1. MAGNAVOX R3. VERY GOOD. $100.00
2. TOWER MIESTERSINGER. NO DRIVER. WOODGRAINED BELL. 35.00
3. AK MODEL M. ALL THERE BUT DOESN'T WORK. YOU MAY WANT TO REPAINT THE BASE. 50.00
4. MAGNAVOX M1A. VERY GOOD. 100.00
5. DICTOGRAND RADIO LOUDSPEAKER. SMALL, SQUAT, UNUSUAL. LOOKS GREAT BUT PROBABLY HAS BEEN REPAINTED. 95.00
5. RADIOLA UZ 1325. EXCELLENT. 115.00
6. SAAL SYMPHONY GRAND. NO DRIVER. LOOKS GREAT. 50.00
7. MAJESTIC BASE. MAGNAVOX HORN. NOT AN ORIGINAL MATCH BUT LOOKS GOOD. 70.00
8. W.E. SUPER HORN. FAIR. HAS 8 OHM MODERN SPEAKER IN BASE. 35.00
9. AK MODEL R. EXCELLENT SMALL HORN BUT NO DRIVER. 60.00

OTHER TYPES OF SPEAKERS.

1. AK MODEL E. GOOD. 40.00
2. SONOCHORDE. BUY BUY FOR APPEARANCE ONLY. 20.00
3. THOROLA CONE MODEL 9. LOOKS GOOD FROM FRONT BUT THE CONE IS A MESS. 20.00
4. PHILCO MODEL 211. MINT. 35.00
5. SONORA. WOODEN CABINET. FANCY GRILL. 35.00
6. RADIOLA 100. UGLY BUT GOOD SHAPE. 40.00
7. RADIOLA 100A. FAIR. 15.00

RADIO BOOK LIST. DATED 1/15/82

1. RADIO ELECTRA. THE MIRACLE OF THE 20TH CENTURY. BY DRINKER AND LEWIS. 1922. THIS IS AN UNUSUAL BOOK. PRINTED FOR USE BY BOOK SALESMEN. IT HAS JUST THE ESSENCE OF THE REGULAR VOLUME (WHICH IS LISTED LATER.) ALSO INCLUDES SALES TIPS TO BOOK SALESMAN. EXCELLENT. INCLUDES ABOUT 20 FULL PAGE PHOTOS OF RADIO IN ACTION. 13.00
2. THE OSCILLATION VALVE. THE ELEMENTARY PRINCIPLES OF ITS APPLICATION TO WIRELESS TELEGRAPHY. BANGAY. 1919. 215 PAGES. SMALL SIZE. 12.00
3. RADIO COMMUNICATION. MILLS. 1917. EXCELLENT. THEORY AND METHODS OF THE PERIOD. 8.00
4. 14 RADIO PLAYS. JANE BURR. 1945. DEDICATED TO "THE LIARS AND CHEATS AND THIEVES OF THIS UNIVERSE". EXC. 5.50
5. SERVICING SUPERHETERODYNES. RIDER. 1934. 277 PGS. EXC. 13.00
6. EVERYBODYS RADIO MANUAL. POPULAR SCIENCE. HARD COVER. 1937 AND 1942. 250 PGS. MANY DRAWINGS AND PRACTICAL RADIO APPLICATIONS. EXCELLENT. 6.50
7. RADIOTRON. RCA DESIGNERS HANDBOOK. 3RD EDITION. 350 PGS. MINT CONDITION. 10.00
8. PRINCIPLES OF RADIO. HENNEY. 1934. EX-LIBRARY BOOK BUT IN GOOD SHAPE. RADIO THEORY. DRAWINGS, CIRCUITS . 5.00
9. PRINCIPLES OF RADIO. HENNEY. AS #8 BUT 1938. EXCELLENT. 5.00
10. RADIO CONSTRUCTION AND REPAIRING. MOYER AND WOSTREL. 1933. 445 PGS. EXCELLENT. 9.00
11. GATEWAY TO RADIO. FIRTH AND ERSKINE. 1934. 318 PGS. ON HOW TO GET INTO RADIO OPERATIONS AND ENTERTAINMENT. NON-TECHNICAL. EXCELLENT. 4.50
12. MODERN RADIO SERVICING. GHIRARDI. 1935. 1275 PGS. MANY DRAWINGS AND SOME PHOTOS. EXC. REF. EXC. COND. 10.00
13. SERVICING SUPERHETERODYNES. RIDER. 1931. 160 PGS. GOOD. 12.00
14. ALIGNING PHILCO RECEIVERS. RIDER. 1937. 143 PGS. FOR ANYONE REPAIRING PHILCOS. EXCELLENT WITH DUST COV. 15.00
15. SERVICING SUPERHETERODYNES. RIDER. 1942. EXCELLENT. 12.00
16. THE ELEMENTS OF RADIO COMMUNICATION. BROWN. 1927. 212 PGS. RADIO THEORY. EXCELLENT CONDITION. 6.00
17. PRACTICAL RADIO TELEGRAPHY. NILSON AND HORNUNG. 1928. 366 PGS. MANY PHOTOS OF EARLY EQUIP. VERY GOOD. 15.00
19. FOUNDATIONS OF RADIO. DUNCAN. 1931. 230 PGS. RADIO THEORY. EXCELLENT. 6.00
20. OUTLINE OF RADIO. HOGAN. 1925. 268 PGS. MANY FULL PAGE PHOTOS OF EQUIP., PARTS AND RADIO STUDIOS. (WJZ) 12.00
21. PRACTICAL RADIO. MOYER AND WOSTREL. 1926. INCLUDES THE TESTING OF RADIO SETS. 268 PGS. SOME PHOTOS AND MUCH CIRCUIT ANALYSIS WITH DIAGRAMS. EXCELLENT. 10.00
22. AS ABOVE EXCEPT 1924 FIRST EDITION. 15.00
23. THE PRINICPLES UNDERLYING RADIO COMMUNICATIONS. 1921 U.S. SIGNAL CORPS BOOK. VERY COMPREHENSIVE. 611 PGS. MANY PHOTOS AND EXCELLENT EARLY RADIO THEORY. 12.00
24. RADIO THEORY SIMPLIFIED. DUSTON. 1924. 171 PGS. NO PHOTOS BUT PLENTY OF DRAWINGS AND EASY TO UNDERSTAND RADIO THEORY EXPLANATIONS. NICE COVER. 6.00
27. YOUR ON THE AIR. GRAHAM MCNAMEE. 1926. STORY ABOUT THE RADIO INDUSTRY FROM AN ENTERTAINMENT STANDPOINT. MANY PHOTOS OF RADIO PERSONALITY. HARD COVER. 202 PGS. 10.00
28. MICROPHONE MEMOIRS. HARRIS. 1937. STORY OF RADIO IN THE EARLY DAYS. ALL TEXT. EXCLNT. 270 PGS. 6.00
29. FLOYD GIBBONS. KNIGHT OF THE AIR. GILBERT. 95 PGS. 1930. STORY OF A POPULAR NEWS BROADCASTER OF THE LATE TWENTIES. GREAT FOR THOSE OF YOU THAT REMEMBER FLOYD. 6.00
30. RADIO ELECTRA. THE MIRACLE OF THE 20TH CENTURY. 1922. DRINKER AND LEWIS. NICE COVER, MANY PHOTOS. PHOTO OF RADIO SET RING. (MINIATURE) 15.00
31. CURLIE CARSON LISTENS IN. CRAIG. 1922. FICTION. 8.00
32. TOM SWIFT AND HIS PHOTO TELEPHONE. APPLETON. FICTION. 1914. EARLY TELEVISION? 10.00
33. PATENTS FOR INVENTION. WIRELESS SIGNALLING AND CONTROL. PERIOD 1926-30. RARE ENGLISH GOVERNMENT PATENT DOCUMENT 750 PAGES. PRINTED 1934. SHOWS HUNDREDS OF PATENTED ENGLISH CIRCUITS, ETC. SOFT COVER AND SEMI GLOSS PAPER. 40.00
34. AS ABOVE EXCEPT 612 PAGES FOR PERIOD 1921 TO 1925. HAS ALPHABETICAL INDEX SO YOU CAN LOOK UP PATENTS FILED BY INVENTOR. NAMES SUCH AS ALEXANDERSON, ARMSTRONG, AND ATWATER KENT APPEAR. (ALSO MARCONI OF COURSE) 60.00
35. FUNDAMENTALS OF RADIO. 1942. JORDON, ET AL. 400 PGS. 5.00
36. WIRELESS TELEGRAPHY. ZENNECK-SEELIG. FIRST EDITION 1915. HIGH QUALITY PAPER AND PHOTOS. CHOCK FULL. 20.00
37. HELLO AMERICA. CESAR SAERCHINGER. RADIO ADVENTURES IN EUROPE. 377 PAGES. 1938. COVERS THE RADIO NEWS FROM THE BEGINNING THROUGH WW 1 AND PREDICTS FOR THE FUTURE. (POST 1938) COULD THEY SEE WW 2 COMING? MANY PHOTOS OF RADIO EVENTS. VERY INFORMATIVE. 12.00
38. ELEMENTS OF RADIO. MARCUS HORTON. 1945. 5.00
39. EXPERIMENTAL WIRELESS STATIONS. EDELMAN. 1914. 220 PGS. MANY DIAGRAMS. HAS DATA ON WIRELESS TELEPHONY AND QUENCHED SPARK SYSTEMS. 80 ILLUSTRATIONS. 8.00
40. THE ELEMENTARY PRINCIPLES OF WIRELESS TELEGRAPHY. BY BANGAY. CA. 1922. 212 PGS. SMALL BOOK. MANY DIAGRAMS. 7.00
41. THE ABC OF VACUUM TUBES IN RADIO RECEPTION. LEWIS. 1922 MANY CIRCUITS APPLICATIONS DIAGRAMMED. 8.00
42. CONQUEROR OF SPACE. THE LIFE OF LEE DE FOREST. CARNEAL. 296 PAGES. 10.00
43. VACUUM TUBES IN WIRELESS COMMUNICATION. MINT. BY BUCHER. 200 PGS. 1918. 15.00
44. THE WIRELESS EXPERIMENTER'S MANUAL. BUCHER. 1920. 340 PGS. HIGH QUALITY PAPER. MANY PHOTOS AND DIAGRAMS. HAS NICE DUST COVER AND IS EXCELLENT CONDITION. 15.00
45. AS ABOVE, BUT NO DUST COVER AND DAMAGED BINDING. 10.00
47. HOW RADIO RECEIVERS WORK. ROBERTS. 1925. 53 PAGES LARGE HARD COVER BOOK. ORIG. PRICE ONE DOLLAR--NOW ONLY 5.00
48. RADIO TELEPHONY. GOLDSMITH. 1918. 247 PGS. HIGH QUALITY PAPER AND MANY GREAT PHOTOS OF EARLY TUBES AND EQUIP. 25.00
49. RADIO PHYSICS COURSE. GHIRARDI. 1942. 940 PGS. A SUPER BOOK ON RADIO. COVERS ALL ASPECTS INCLUDING EARLY ASPECTS. VERY NICE WITH PHOTOS AND DRAWINGS. 15.00
50. RADIO TELEGRAPHY AND TELEPHONY. DUNCAN AND DREW. 950 PGS. 1929. MANY PHOTOS AND DRAWINGS. 15.00
51. ELEMENTS OF RADIO COMMUNICATION. MORECROFT. 1929. 270 PGS. MOSTLY THEORY AND A FEW PHOTOS. 9.00
52. RADIO FOR EVERYBODY. LESCARBOURA. 1922. MINT. MANY PHOTOS. HIGH QUALITY PAPER. 15.00
53. AS ABOVE IN GOOD CONDITION. 10.00
54. AMATEURS WIRELESS HANDYBOOK. DATED 1916. CONTAINS 90 PAGES. CALL LISTING FOR 1916 HAMS. SHIP CALLS. HAS RADIO SYMBOLS AND TYPICAL RADIO CIRCUITS. VERY RARE TO FIND AMATEUR CALL LISTING FOR THIS YEAR. 30.00
55. THE RADIO AMATEURS HANDBOOK. BY HERTZBERG AND FRED COLLINS. 374 PGS. 1964 ELEVENTH EDITION. EXCELLENT. 6.00
56. THE RADIO AMATEURS HANDBOOK. COLLINS. 1940. EIGHTH ED. 340 PGS. EXCELLENT. 11.00
57. THE RADIO AMATEURS HANDBOOK. COLLINS. 1957. TENTH ED. 6.00
58. THE RADIO HANDBOOK. EDITORS AND ENGINEERS. 13TH ED. 1951. 720 PGS. GOOD. 10.00
59. THE RADIO HANDBOOK. EDITORS AND ENGINEERS. 12TH ED. 1949. 316 PGS. VERY GOOD. 10.00
60. THE RADIO HANDBOOK. EDITORS AND ENGINEERS. 9TH ED. 1942. 600 PGS. VERY GOOD. 10.00
61. THE RADIO HANDBOOK. EDITORS AND ENGINEERS. 7TH ED. 1940. 600 PGS. GOOD. 10.00
62. HAM RADIO HANDBOOK. ROBERT HERTZBERG. W2DJJ. SOFT COVER. 1959. 144 PGS. MANY PHOTOS OF GEAR BEING MARKETED IN THAT YEAR. 5.00
63. AMATEUR RADIO. 1922. SOFT COVER. BY GRAINGER. 140 OF DIAGRAMS AND ILLUSTRATIONS. COVER LOOSE BUT OTHERWISE IN EXCELLENT CONDITION. 157 PAGES. 13.00
64. THE ELEMENTARY PRINCIPLES OF WIRELESS TELEGRAPHY. BY BANGAY. PART 2. FIRST EDITION. 1918. 240 PAGES. ADS AND PHOTO IN BACK OF MARCONI SPECIAL MAGNETIC RECEIVER FOR TIME SIGNALS. MANY ILLUSTRATIONS. VG. 10.00
65. THE ELEMENTARY PRINCIPLES OF WIRELESS TELEGRAPHY. AS ABOVE EXCEPT 2ND EDITION. VERY GOOD. 9.00
66. DRAKES ELECTRICAL DICTIONARY. BY LOWE. 1915. SOFT COVER. 300 PAGES. NO ILLUSTRATIONS. 8.00
67. ELECTRICTY FOR EVERYBODY. 1895. ATKINSON. LOADED WITH ETCHINGS. HARD COVER. EXCELLENT 10.00
68. ELEMENTS OF RADIO TELEPHONY. BY BALLARD. 140 PAGES. 1923. MANY PHOTOS OF EARLY RADIO EQUIP. AND COMPONENTS. 12.00
69. WIRELESS POSSIBILITIES. LOW. 1924. 77 PGS. A FEW DRAWINGS. SMALL SIZE. 5.00
70. ICS RADIO HANDBOOK. A HANDBOOK OF REFERENCE FOR THOSE INTERESTED IN THE RADIO ART. 500 PGS. TINY SIZE. MANY DRAWINGS. 1923. 9.00
72. RADIO SIMPLIFIED. WHAT IT IS AND HOW TO BUILD AND OPERATE THE APPARATUS. KENDALL AND KOEHLER. 1923. 300 PGS. MANY DRAWINGS. EXCELLENT. 8.00
73. ELEMENTS OF RADIO. MARCUS HORTON 1944. 672 PGS. 5.00
74. FM SIMPLIFIED. 1953. KIVER. 450 PAGES. 3.00
75. UHF RADIO SIMPLIFIED. KIVER. 1945. 220 PAGES. 2.00
76. PRACTICAL WIRELESS TELEGRAPHY. BUCHER. 1921. FIRST 42 PAGES ARE MISSING BUT 290 PAGES STILL THERE. LOTS OF DRAWINGS AND PHOTOS. 5.00
77. PRACTICAL ELECTRICITY. CROFT. 1940. 690 PGS W/DUST CVR. 3.00
78. EDISON. HIS LIFE AND INVENTIONS. VOL. II ONLY. 1929 550 PGS. NINE ILLUSTRATIONS. 8.00
79. BASIC TELEVISION. GROB. 1949. 594 PGS. 2.50
80. RADIO ENGINEERING PRINCIPLES. LAUER AND BROWN. 1928 300 PGS. MANY DRAWINGS AND CIRCUITS. 7.00
81. HOW TO PASS RADIO LICENSE EXAMS. DREW. 1944. 300 PGS. 2.00
82. SOFT MAGNETIC MATERIALS FOR TELECOMMUNICATIONS. BY RICHARDS AND LYNCH. 1953. 343 PGS. 1.00
83. ELEMENTS OF DESIGN AND SERVICE IN TV SWEEP OSC. THOMAS. SOFT LEATHERETTE COVER. 225 PAGES. EXCELLENT. 1.00
84. FUNDAMENTALS OF TRANSISTORS. KRUGMAR. SOFT COVER. 1954. 1.00
85. RCA RECEIVING TUBE MANUAL. 1950. FAIR CONDITION. 1.00
86. AUTOMATIC VOLUME CONTROL. RIDER. 1938. 94 PGS. 2.00
87. RADIO AND TELEVISION RCVR CIRCUITRY AND OPERATION. GHIRARDI. 1951. 658 PGS W/DUST COVER. 3.00

# letters

Dear Sirs:
I recently came across a floor model wood cabinet radio produced sometime around (1934-38) round dial and no legs protruding to speak of. The name on it is Simplex. Now, could you shed any light on this as to what concern produced or manufactured this unit, Was it Simplex manufacturing? Or was it a set produced for Simplex by some other concern such as the Atwater Kent Manufacturing Company of Philadelphia, Pennslyvania?

B. H. Thorpe
710 Iowa AVe.
Aurora, IL 60506

Dear Mr. Cranshaw:
I was looking thru some old magazines of 1937 and I saw a picture of a radio saying it was the biggest radio in the world, it had 37 tubes and 6 loudspeakers and it weighed 475 lbs. And it was made by the Crosley Radio Corporation of Cincinnati.
Would you know if there is any of these radios around yet? I would guess they were very high priced and not many made.
Also are there many Edison radios in collector's hands? I have seen only one in my many years.

Henry Bremer
RD 1 Box 96
Ellendale, MN 56026

# CLASSIFIED

**AD RATE: 10 cents per word**
**20¢ per word for nonsubscribers**
**Photo ads: $5.00 extra**
**DEADLINE: 20th of the preceding month**
**List ads - 35 cents per line**
**AD SPACE:**
**Full page.....$65.00**
**Half page.....$35.00**
**Quarter page..$20.00**
**Multiple runs....20% discount**

**MIRRORED GLASS RADIOS WANTED!**
**BLUE, PEACH, GREEN, ETC. BY SPARTON**

Troy, Mirro-Ray, Pratt, Gilfillan, Federal, etc.

ED SAGE
1781 HELANE COURT
BENICIA, CA. 94510
(707) 746-5659

## FOR SALE OR TRADE

**********
FOR SALE: CATHEDRAL, BATTERY and AC RADIOS from 1920's and 1930's. Please send self addressed stamped envelope. J. Albert Warren, Box 279, Church St., Waverly, PA 18471.
**********
LARGE SASE FOR 7 PAGE LIST OF SETS, PARTS, BOOKS, MAGAZINES, TUBES. BOB, W6ME, 4178 CHASIN STREET, OCEANSIDE, CA 92056.
**********
MARCONI WIRELESS STOCK CERTIFICATES, 1913 MINT CONDITION, AUTHENTIC, SHOWS MARCONI WIRELESS STATION, BEAUTIFUL ARTWORK. $25.00 EACH. PPD., JAMES KREUZER, 257 HASTINGS, BUFFALO, NY 14215. PHONE NO. (716) 835-9756.
**********
FOR SALE: 1920'S AND '30'S RADIOS, LOTS OF CATHEDRALS AND BATTERY SETS. Also wanted Grebe radios. Jerry Finamore, RD no. 2, box 623, New Castle, PA 16101 or call (412) 656-0338. SEND LARGE SASE FOR PICTURED LIST
**********
FOR SALE: 1924 SUPER ZENITH BATTERY SET. Cabinet and radio in excellent condition. Write or call: Russell Schoen, R# 1, Clintonville, WI 54924. Phone (715) 823-6744.
**********
FOR SALE SEVERAL ART DECO RADIOS. SEVERAL CATHEDRAL RADIOS. SEVERAL ATWATER KENT BREADBOARDS AND OTHERS. SEND $1.00 FOR LIST. CHARLEY SEIDEL, 925 STARLITE, GRANTS PASS, OR 97526 (503) 476-1078.
**********
WILL TRADE MARCONI 106D FOR SPARTON FLOOR MODEL MIRROR GLASS RADIO. ROGER REES, CALL (815) 964-8199.
**********
SEND LARGE SASE for list of radio magazines, books and sets to Waves, 32 E 13th St., New York, NY 10003
**********
CHAMPION SUPER ODD EARLY PLASTIC set w/loop uses 2525, etc. - $25. ** Brandes cathedral speaker. works. - $15. ** Ammeter from street railway - $20. ** Chassis for R.C.A. suitcase portable 31-p - $15. ** Emerson brown bakelite set 1933 - $20. ** Zenith set with glass rod grille - $65. ** Philco cathedral 37-61, works - $50. ** GE tombstone S-22 page 86 FOS, 8 tubes, 1931 - $75. ** Philco 84 (1935) p. 119 FOS works. super clean - $ 60. ** Thermiodyne T-F 6 battery set unusual ganged tuning w/ rack and pinion - $65. ** FADA regen set w/tubes, all Fada parts, nice con. - $65. ** Crosley 51, audio ok - $50. ** Federal 61, cab, panel and new lid - $75. ** Mastertone 5 3-dial slant-front, small - $20. ** AC Dayton XL-5 set exc. - $85. ** Emerson 35 cute table mod clock, works, nds cab repair - $35. ** Philco 84 chassis, spkr works - $20. ** Philco 90 chassis, spkr works - $35. ** Grebe CR-9 some parts missing but good condition - $300. ** DuMont 1948 TV plus table (no ship) works - $75. ** Westinghouse WR-8 clock radio (no ship) works, clock not original - $75. SHIPPING EXTRA, Calls 6-9 p.m. EST only. Richard C. Foster, 12 Shawmut Ave., Cochituate, MA 01778.
**********
COMPLETE 25 TUBE ZENITH STRATOSPHERE CHASSIS INCLUDING TUNER. AMPLIFIER AND SPEAKER. COMPLETELY REBUILT. BEST OFFER. ALSO HAVE SEVERAL E. H. SCOTT RADIOS IN CABINETS. ROGER REES, (815) 964-8199. CALL AFTER 6 P.M.
**********
ZENITH G005 TRANSOCEANIC PORTABLE (WORKING V.G.) $35. * PHILCO 620 FARM RADIO (V.G. GOOD-) TOMBSTONE STYLE $35. * CROSLEY GEMBOX (GOOD - NOT WORKING) $40. * AK 42, AK 44, (EXC - NOT WORKING) $50. EACH * RADIOLA IIIA FRONT PANEL AND VARIOCOUPLER) $12. * ZENITH 6S527 (EXC - UNTESTED) $35. * HALLICRAFTERS SKY BUDDY (WORKING - BUT MOTORBOATS) $50. * RADIOLA III (V.G. - AUDIO TRANSFORMER OK) $70. * RCA R28 CATHEDRAL (V.G. - UNTESTED) $75. * AK 20C (V.G. - NOT WORKING) $45. - SEND SASE FOR UPDATED LIST OR SEVERAL SASE'S FOR MONTHLY UPDATES. LIST INCLUDES BOOKS, MAGAZINES, RIDERS AND TUBES. VINTAGE RADIO SERVICING, RON BOUCHER, 376 CILLEY RCAD, MANCHESTER, NH 03103. (603) 669-1698.
**********
CROSLEY 50 - $90 -, Radiola 3A - $75, Aeriola Sr. - $90 -, Western Electric 7A amp. - $60 -, Lalley Electric - 1922 - crystal radio - $125. All sets nice, w/o tubes plus shipping. Wanted - Crosley 124 chassis. Bob Lane - 2301 Indep. Ave., K.C., MO 64124.
**********

## *Wanted*

---
WANTED: EARLY CEILING OR TABLE FANS. ESPECIALLY ODD OR UNUSUAL TYPES. RICHARD CANE, 8391 N.W. 21st ST., SUNRISE, FL 33322.
---
CASH FOR DECEMBER 1915 TO DE-

# Radios!

HIGH QUALITY RECEIVERS bought, sold and serviced. Television, short-wave sets and converters. Home demonstrations. Our prices are the lowest compatible with sincere, expert attention to your radio needs.

*HOGAN'S* Radio Shop HAINES FALLS Telephone 628

# THE LINE-UP

**Let Us Check Your Tubes**

*One By One!*

One bad tube is enough to spoil reception. It will take our experts only a few minutes to locate the offender! And the cost is nominal.

Hogan's Radio Shop HAINES FALLS

EXPERT RADIO SERVICE
HOGAN'S SHOP
Haines Falls, N. Y.

# RADIO

We can fill your every radio need from installation to repair. Finest equipment in Haines Falls!

HOGAN'S

# The Radio Hospital

Rush calls are our specialty. Day or night a phone call brings an expert for any job from a tube replacement to a complete overhaul!

HOGAN'S RADIO SHOP
*Emergency Call 628!*

"Service" Advertisements That Will Bring You Business

THESE nine sample newspaper "Ads" have been developed by the advertising department of RADIO NEWS especially for the benefit of our servicemen readers. They can be used with your own name inserted in place of the specimen name. They will bring in new business you could never get in any other way. Read the Service Bench for further information and our special offer.

# NEW TUBES WILL MAKE YOUR SET PERFORM

**Poor tubes are the cause of 90 per cent of all radio ills. Let us check your tubes when the complaint is—fading—poor volume—unnatural tones—noisy reception—or just a plain dead radio!**

**HOGAN'S RADIO SHOP**

# RADIO SERVICE

Low Cost
Repairing
Installation
HOGAN'S
Haines Falls

# BROADCASTING THE FACTS

**Service!**

**Modern equipment! Expert Personnel! Courteous immediate attention! Fair and Moderate charges! For radio SERVICE in the finest sense of the word call on—**

**The Hogan Radio Shop**
**HAINES FALLS, N. Y.**

Our Mike
Haines Falls 628

# FREE RADIO! INSPECTION SERVICE

It costs you nothing to secure our expert opinion. If your radio is working perfectly you will be told so. If it needs attention, we shall give you an estimate for fair, square service.

HOGAN'S RADIO SHOP
HAINES FALLS, N. Y.

# AN ALL-WAVE SUPER-HETERODYNE

By E. H. SCOTT*

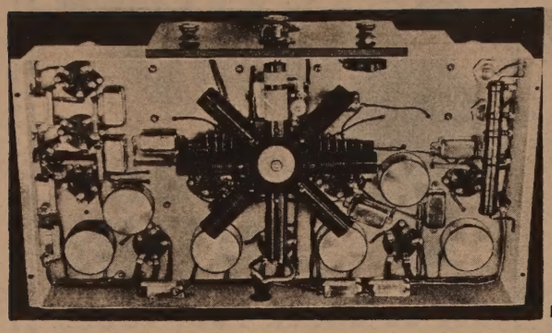


Fig. B
Under-chassis view of the new superheterodyne. Note the arrangement.

JUST as broadcasting swept the country a few years ago, so short-wave radio, combined with a standard broadcast receiver, is being sought by those who desire the acme of radio reception. The advantages to be gained by such a combination have been discussed in these columns before, but a description of a receiver incorporating some of the most modern advances in the field always arouses interest. The receiver to be described is known as the Scott All-wave DeLuxe Superheterodyne which consists of twelve tubes and has the following characteristics:

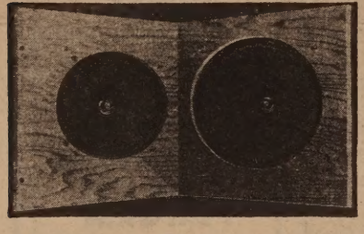


Fig. A
The twin-matched speakers in the Scott super.

A pre-selector stage using a '51 variable-mu tube; a first detector using a '24 screen-grid tube; an oscillator using a 56 tube; three stages of I.F. with four tuned circuits and three type '24 tubes. Each of the I.F. stages is completely shielded and isolated from the others, and employs a new system of I.F. amplification giving extremely high gain without loss of stability. Additional features are the use of the 56 as a second detector; three stages of resistance-coupled audio amplification, using two type 56's and two type '45 tubes, the latter being push-pull; and last, but not least—twin, laboratory matched speakers.

### Description of the Circuit

The oscillator circuit utilizes one of the new 56 tubes, while the first detector incorporates a type '24 tube with plate rectification, and is coupled to the oscillator in such a way that it not only gives perfect modulation, but at the same time automatically tracks or aligns the tuning of the circuits so they may be operated by a single dial without loss of sensitivity or selectivity from 15 to 550 meters. The single dial tuning, without external trimmers, is indeed a novel idea.

The gain, or sensitivity of a superheterodyne receiver depends largely on the efficiency of the I.F. amplifier. Reference to the schematic circuit of Fig. 1, indicates that the design of the I.F. coupling used in this model is radically different from that employed in other superheterodynes.

It consists, briefly, of a highly developed tuned impedance circuit in which each unit in each stage is thoroughly shielded from each other, and from other circuits in the receiver.

Laboratory curves of the audio amplifier show that the response is flat within plus or minus 2 db from 30 to 8,000 cycles. Each stage of amplification is of the class A or linear type. This arrangement produces a high degree of quality and is used in preference to the class B system which delivers a much higher output, but at the same time, much greater distortion.

Since most broadcasting stations do not modulate frequencies above 5,000 cycles, and since a large part of the tube hiss and interfering noises such as static,

*President, E. H. Scott Radio Laboratories, Inc.

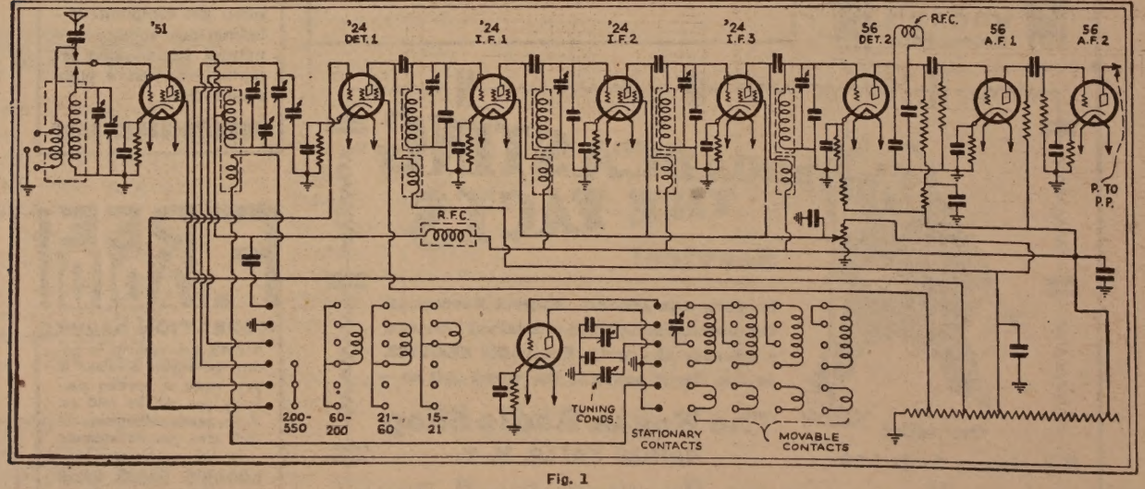



Fig. 1
Complete schematic circuit of the Scott Allwave DeLuxe receiver.

**A distinctive superheterodyne is one that rigidly adheres to the rules underlying good radio design. This article illustrates what really can be done with modern apparatus in a commercial laboratory.**

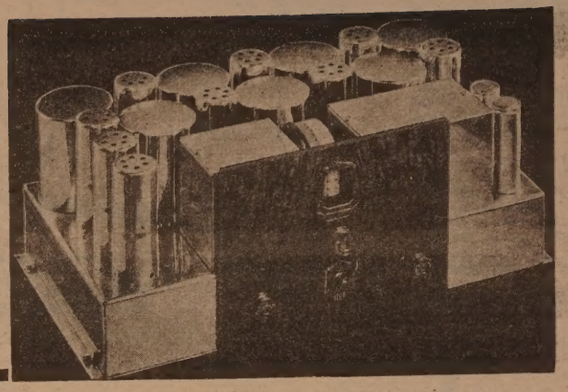


Fig. C
Front view of the receiver illustrating the arrangement of the parts.

etc. occur at frequencies above 5,000 cycles, a low-pass, audio filter designed to cut off frequencies above 5,000 cycles is incorporated in this amplifier to effectively reduce the noise level of the receiver. This results in remarkable clarity of distant stations.

### Twin Speakers Used

Recent investigations indicate that it is quite impractical to depend upon a single speaker to deliver full output at all of the audio frequencies used in radio reception. Experiments proved, therefore, that the road to tone perfection lay in the use of two matched speakers. This combination eliminates the peaks or resonant points which sometimes cause "boom" on the bass notes and tinny reproduction on the treble notes. An illustration showing the twin reproducers used is given in Fig. A

Plug-in coils, while efficient, are inconvenient to use, and it is necessary when changing from one waveband to another to pull out one set of coils and insert another. This receiver employs a separate coil for each waveband in a mechanical change-over device, which has proven highly efficient because of the fact that the design enables even shorter leads to be used between the coils and the tube sockets than with ordinary plug-in arrangements. Fig. B, an under-chassis view of the receiver, shows very well the unique mechanical layout.

The entire switching unit is mounted on a die-cast frame; the coils being placed within the base of the chassis, completely shielded and operated by a small lever on the front panel. The coil contacts may be seen directly between the two coils in the center, and they connect directly to the oscillator and detector tubes. The socket for these tubes will be noticed just at the back of the switch contact.

All tuning is done with one knob, operating single dial, without any other adjustments from 15 meters right up to 550 meters. While single dial receivers are common for the broadcast band, *I believe this is the first all-wave receiver that tunes more than one circuit on the short waves with a single dial, without the use of external trimmers.* Usually, short-wave receivers using a stage of R.F. ahead of the first detector have used either two dials or a single dial with auxiliary trimmer condensers. A single dial has been

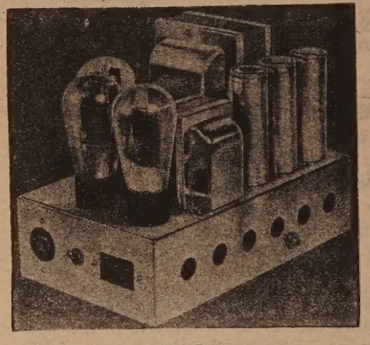


Fig. D
The power amplifier used with the Scott receiver.

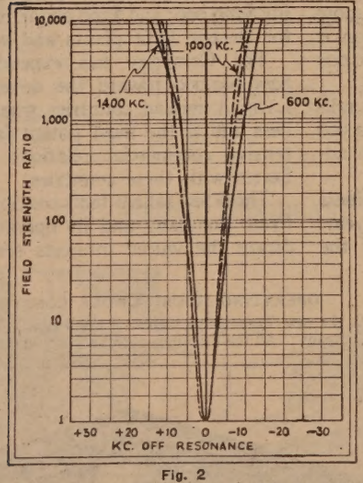



Fig. 2
Selectivity curves of the receiver. Note the sharp resonant curves.

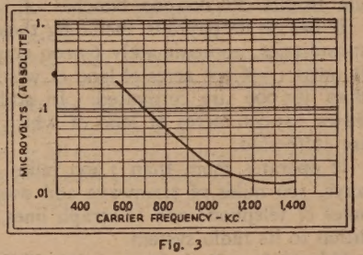



Fig. 3
Sensitivity curve of the set.

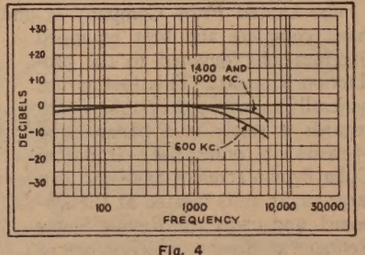



Fig. 4
Here's real fidelity.

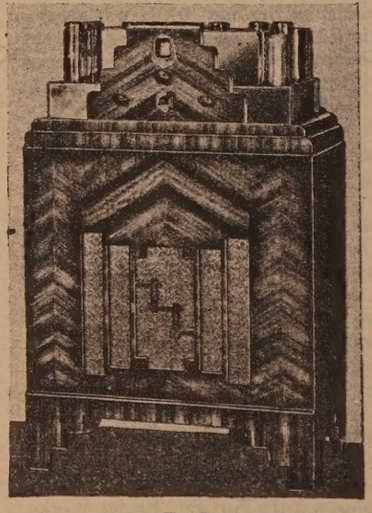


Fig. E
The "Napier," a distinctive Scott model.

used in receivers where only the oscillator circuit is tuned, but with a tremendous loss in sensitivity and selectivity.

**Selectivity and Sensitivity**

An examination of the selectivity curve, which is shown in Fig. 2, taken in the center of the broadcast band (1,000 kc.), shows that at 100 times normal field strength 9 kc. selectivity is secured; at 200 times normal field strength 10 kc. selectivity is obtained; and, 20 kc. separation is secured at a field strength of 5,000 times normal. What the above means is that the receiver will bring in a distant station through a local having 5,000 times the field strength and separated from the local by only 20 kc. without any interference.

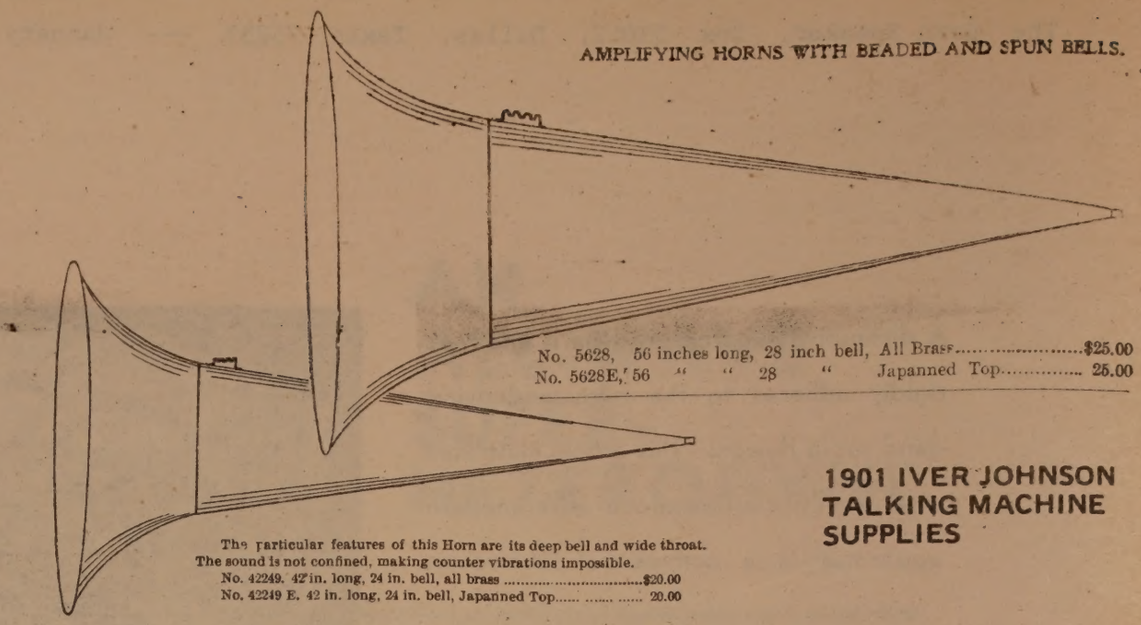
The sensitivity curve of this receiver is shown in Fig. 3, an examination of which reveals that it varies from approximately .016 to .19 microvolts absolute. At 100 kc., the sensitivity is approximately .016, and at 600 kc. the sensitivity is approximately .19 microvolts absolute. Such extreme sensitivity makes possible the reception of distant stations with ease on both the long and short wave bands.

A fidelity curve of the entire receiver is shown in Fig. 4. This curve shows that the electrical fidelity is flat, within plus or minus 2 db. from 30 to 3,500 cycles at 1,000 and 1,400 kc. Sound pressure curves show that the overall response from the speaker is uniform up to approximately 5000 cycles. At 600 kc., the fidelity falls off slightly, but not enough to impair the quality of the receiver to any noticeable degree.

A front view of the set is shown in Fig. C and in Fig. D an excellent photograph of the power amplifier.

For those desiring a cabinet of modernistic design, the Napier, illustrated in Fig. E, will meet all requirements.


AMPLIFYING HORNS WITH BEADED AND SPUN BELLS.



No. 5628, 56 inches long, 28 inch bell, All Brass.....$25.00
No. 5628E, 56 " " 28 " Japanned Top..... 25.00

The particular features of this Horn are its deep bell and wide throat. The sound is not confined, making counter vibrations impossible.
No. 42249. 42 in. long, 24 in. bell, all brass .....$20.00
No. 42249 E. 42 in. long, 24 in. bell, Japanned Top..... ..... ..... 20.00

**1901 IVER JOHNSON TALKING MACHINE SUPPLIES**


# The History of the Development of the United Fruit Company's Radio Telegraph System

Part IV

Since 1911 the radio activities of the United Fruit Company in all its branches have been under the immediate direction of Mr. George S. Davis, who is General Manager of their Radio Telegraph Department. He is also President of the Wireless Specialty Apparatus Company, General Manager of the Tropical Radio Telegraph Company and a Director of the Radio Corporation of America. He is a Fellow of the Institute of Radio Engineers and a member of various other scientific organizations.

While in the United States Navy, Mr. Davis became interested in electric propulsion for steamships, and, largely as a result of his initiative, the United Fruit Company decided to give electric ship propulsion a trial. Their newest steamship, the *San Benito*, was accordingly equipped with electric drive by the General Electric Company, and has proven so satisfactory that additional ship tonnage when built will probably be propelled by electric machinery.

Assisting Mr. Davis in the Company's radio engineering and construction work is Mr. William E. Beakes, Chief Engineer of the Radio Telegraph Department and of the Tropical Radio Telegraph Company. Mr. Beakes was with Professor Fessenden's company from 1904 until 1912 and participated in the early work at both the Brant Rock, Massachusetts, and Machrihanish, Scotland, stations. He represented the Fessenden Company in the installation of the United Fruit Company stations at Cape San Antonio, Cuba, and New Orleans, entering the service of that company in 1912.

Colonel W. P. Rothrock, formerly Chief Designing Engineer of the Fort Pitt Bridge Works and well known among structural steel builders as having supervised the third tracking of a large section of the New York Elevated system, and the construction of some of the largest war material plants, is superintendent of tower and building construction for the Radio Department of the Fruit Company. He erected the new 350-foot towers at Almirante, and is now in Honduras, erecting the 420-foot towers at Tegucigalpa.

This article would hardly be complete without a few words concerning the United Fruit Company's activities—what it is and does. It was incorporated on May 30, 1899, and is engaged primarily in the production and transportation of tropical products, principally bananas, sugar, cacao and cocoanuts. It also conducts an extensive freight and passenger business.

Its tropical divisions are located in Colombia, Costa Rica, Cuba, Guatemala, Honduras, Jamaica, Panama and the Canary Islands. During the past ten years it has shipped from the tropics 284,000,000 bunches of bananas.

It has on its payrolls, including those of its subsidiaries, approximately 67,000 employees. It owns 1,536,000 acres of land of which more than 365,000 are cultivated. In addition it leases 125,000 acres of land of which 30,000 are cultivated.

It operates more than 1,300 miles of railways, 500 miles of tramways and over 3,500 miles of telephone and telegraph lines, in addition to its radio system.

In Latin America it does a mercantile business amounting to more than $10,000,000 a year.

The United Fruit Company is one of the most complete and best equipped organizations devoted to the production of sugar. This fact is not generally known by the public, which regards it solely as a banana and steamship enterprise. It has in Cuba 87,000 acres of cane and two large sugar mills located at the seaboard, and owns the Revere Sugar Refinery at Boston, which is one of the most modern plants of its kind in the world.

Before closing the story of this remarkable company and its achievements, mention should be made of its medical service in the tropics. Probably few realize the magnitude of this service including, as it does, not only the care of the sick, but preventive medicine and supervision of sanitation. Yet on the preservation of health and improved conditions which make living in the tropics safe and enjoyable has depended in a large measure the success of all that the United Fruit Company has attempted and achieved.

An annual medical service, which is expressed in six figures, commands attention. During 1921 the number of patients cared for in the tropics by the Company's medical department was 208,000, of whom 33,000 were non-employees.

A large personnel of experienced executives, doctors and nurses, recruited from all over the world, is carrying on the work of this department of the United Fruit Company's activities.

The cost last year of operating hospitals and dispensaries was $240,000 in excess of receipts. Through other departments directly associated with but not included in its medical service, the company spends annually in sanitation $275,000; for parks and street cleaning $200,000; and $300,000 in excess of receipts for electric light plants and waterworks.

The Company has expended more than $200,000,000 toward the development of the Latin American countries where it does business and is the most potent factor in the extensive commercial relations of the United States with these countries.

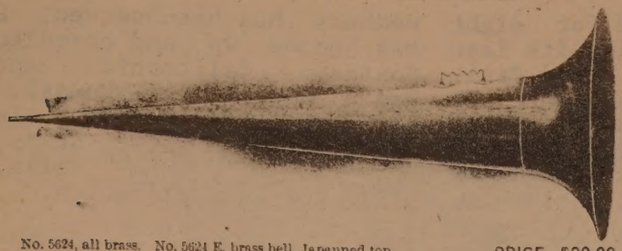
These few salient facts concerning the United Fruit Company and its operations clearly indicate the varied interests served by its ex-

OPERATING HOUSE UNDER CONSTRUCTION

At the new Tegucigalpa station of the Tropical Radio Telegraph Company. All the buildings at this station will be made of stone

## AMPLIFYING HORNS WITH BEADED AND SPUN BELLS

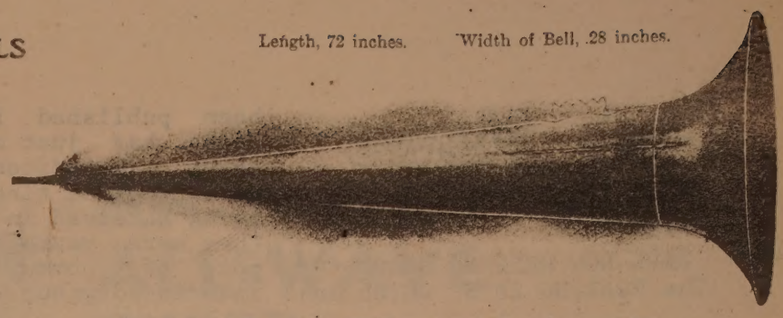
Length, 56 inches. Width of Bell, 24 inches.



No. 5624, all brass. No. 5624 E, brass bell, Japanned top. PRICE, $20.00

Designed for Concert and Out-door use. Handsome and attractive in appearance. Also adapted for home use where clear, fine reproductions are desired.

Length, 72 inches. Width of Bell, 28 inches.



No. 7228, All Brass. No. 7228E Brass Bell, Steel Japanned Top.

## Radio Broadcast

tensive and rapidly growing radio system. Radio—a dream of the scientists two decades ago—has firmly established its place in the commercial and political life of the world. Too much credit cannot be given the inventors and pioneers for their courage and perseverance in accomplishing this result.

The United Fruit Company has just announced the inauguration of a free medical radio service from its hospitals in the various countries of Central America and from its passenger steamships to all ships at sea. This service is available without charge so far as the United Fruit Company and subsidiary companies are concerned to ships of all nationalities through the following radio stations operated by the United Fruit Company or the Tropical Radio Telegraph Company:

| *Radio Stations* | *Radio Call Letters* |
|---|---|
| New Orleans, Louisiana | WNU |
| Burrwood, Louisiana | WBW |
| Fort Morgan, Alabama | WIO |
| Swan Island, Caribbean Sea | US |
| Tela, Honduras | UC |
| Puerto Castilla, Honduras | UA |
| Tegucigalpa, Honduras (Open Nov. 1922) | UG |
| Port Limon, Costa Rica | UX |
| Almirante, Panama | UB |
| Santa Marta, Colombia | UJ |
| All passenger steamships of the United Fruit Company | For ships' call letters see International Radio Call Letter List |

Radiograms requesting medical advice should be signed by the captain of the ship and should state briefly, but clearly, the symptoms of the person afflicted. Such radiograms should be addressed "UNIFRUITCO" (name of place) and may be sent to any of the United Fruit Company's hospitals listed below:

Santa Marta, Colombia
Port Limon, Costa Rica
Almirante, Panama
Tela, Honduras
Puerto Castilla, Honduras
Puerto Barrios, Guatemala

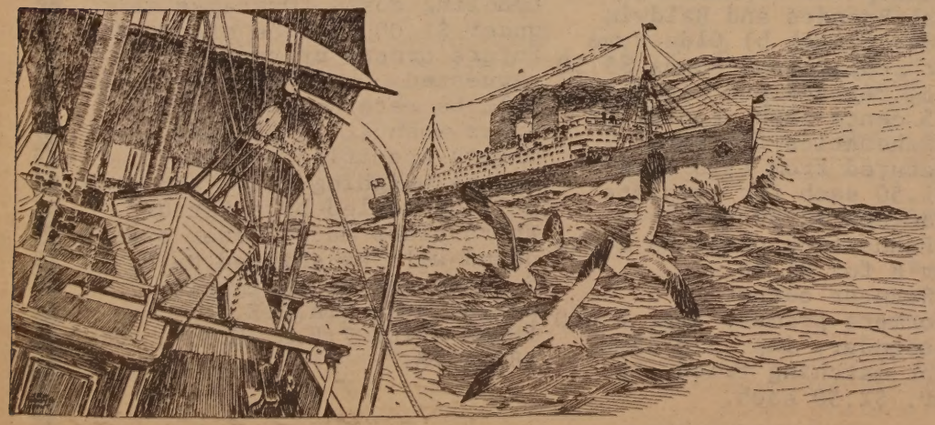
All United Fruit Company passenger ships carry doctors, and free medical service may be secured by radio from any of them by a radiogram addressed "Ship's Doctor" followed by the name of the steamship.

This free medical service is established primarily for the benefit of ships not carrying doctors; however, should occasion require, ships' doctors may hold consultation by radio with the United Fruit Company ships' doctors and hospital staffs.

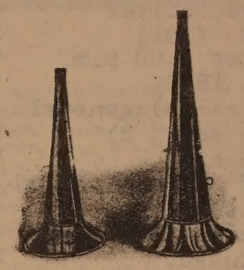
It is requested that when sending medical advice radiograms, radio operators check them "(number of words) DH Medico."

"DH Medico" radiograms will be given preference over all other radiograms, excepting SOS calls, throughout the radio service of the United Fruit Company and subsidiary companies.

RADIO BROADCAST 1922



## Amplifying Horns, with Beaded and Spun Bells



No. 146, 14 in. No. 187, 18 in.
No. 146 E, 14 in. No. 187 E, 18 in.

No. 2411, 24 in.
No. 2411 E, 24 in.

The Editorial Group, Ltd.
P.O. Box 521, Palo Alto, Calif. 94302

RADIOS FOR SALE

Scott All-Wave XV w/ Spkr. & Pwr. Supply...Grebe Synchrophase Chassis ...A-K 33/55-C/37 Metal Cabinet... A-K E-3 Spkr...Electrola 760...Am. Bosche 5/66/260 Lo-Boy...All-Americ. Mohawk...All-Americ. Chieftan Five.. Sargent-Rayment 710...Freshman Masterpiece V with Integral Spkr...Echophone Commercial EC-2...Echophone 4.. Gilfillan 40...Philco 45-150/19/112.. Freed-Eisemann NR-5/NR-80/48...Patterson PR-10...Hallicrafter SX100... Day-Fan Five...Fada 3-Dial TRF... B-T Counterphase...Browning-Drake 1926...Sargent Pre-Selector & Chassis & Spkr...RCA 17 Console & Table-Top ...RCA 60/80/22/28...Custom-Built TRFs & Regen. Sets...Speakers From RCA, Baldwin, Rola, Sonocorde, Nat'l., Zenith. Stew.-Warner, A-K, etc.

SASE For Complete Listings & Prices.

# Club News

**** PAUL NOW HELPING SCARS *** The ROARING 20'S which has been published free for eight years has just mailed its last issue. The editor, Floyd Paul, said that he finds ads were not being received in the quanities they were years ago. Its purpose of communicating to an interested group of nationwide members has been served. Floyd has become vp and co-editor of Southern California Antique Radio Society's journal. The club solicits members. Interested? If so, write; SCARS, 656 Gravilla Pl., La Jolla, CA 92037 for an application.

AUTUMN SEASON 1982 --- OLDE TYME RADIO COMPANY ---- 2445 Lyttonsville Road, Silver Spring, MD 20910. (301) 585-8776. -- After 7:00 p.m. local time. No. 182B

- 1. HEADPHONES --- a) general service .. $3.00 each. b) vintage .. $6.50 each.
- 2. REPLACEMENT SPEAKERS PM OR DYNAMIC. Many sizes from 2" ovals to 10" rounds. Send us your needs for quote.
- 3. 60uf 250V filter caps. 50 cents each or 3/$1.00. --
- 4. NEW VOLUME CONTROLS 1/4" SHAFT. MANY SIZES FROM 10 OHMSTO 1.0 MEG. OHMS. $1.25 EACH OR 3/ $3.00
- 5. WIRE DEPARTMENT - 6 conductor AK style $1.25/ft. - 5 conductor AK style $1.00/ft. - brown silk type power cord .30/ft. - white small size silk type power cord .20/ft. - old style cloth twisted pair power cord .45/ft. - single conductor hookup wire (cloth) .12/ft. - #20 magnet wire double cotton wrap 80 feet $3.50 ft. - #18 bare stranded copper wire .25/ft. --

.. VINTAGE TEST EQUIPMENT. WRITE FOR LIST.

- 6. Exact replacement Radiola II or VIII leather handle. only $4.50. --
- 7. OLDE TYME RADIO TUBES tubes from the 20's thru the 60's used and new. write for a quote.
- 8. Need name plate or escutcheon screws? We got them. guage length respectively 0-1/4", 0-3/8", 1-1/4", 1-3/8", 2-1/4", 2-3/8" 10 for 50 cents. Above are brass. Can be ordered with flat or round head style.--
- 9. Ant., rf, osc. coils manufactured by Meissner. Broadcast band and some SW band and multiple band coils only $3.00 each (higher for special units) --
- 10. Slip over replacement coil for ant. and RF coils. Just tell us the diameter of your defective coil form $1.50 each. --
- 11. I.F. transformers (Meissner) most frequencies. $3.00 each (higher for special units) --
- 12. WHITE TUBE CARTONSSize G, 2x2x6 20 cents, lots of 100 18 cents each. Size large G, 1 1/2 x 1 1/2 x5, 18 cents, lots of 100 16 cents. Size GT, 1 1/4 x 1 1/4 x 3 3/4, 16 cents, lots of 100 15 cents. Size miniature, 1x1x3, 15 cents each, lots of 100 14 cents.
- 13. Used power transformers. From $7.00 to $10.00. state your needs and we will send a quote. --
- 14. Mallory electrolytic capacitors small fr type 10 uf x 10 uf at 450V $1.00 each or 6 for $5.00. last ones.
- 15. We cannot provide WD-11's but we can provide WD-11A's made with 864's in WD-11 bases. 864 tubes are new. Work better than WD-11. $15.00 each or 2 for $25.00. --
- 15. DIAL LAMPS - 25 cent each or 5 for $1.00.
- 16. Crystal set items - a) galena xtals $1.50 each b) xtal detector ass'y w/xtal $3.50 each c) unmounted xtal detector ass'y without xtal $2.00 each.
- 17. Headphone replacement cords a) Brandes and Baldwin types $4.35 each b) Olde tyme speaker replacement cords $3.50 each. c) replacement pin jack tips 25 cents each or 5/$1.00
- 18. Schematics for sets manufactured from 1920 thru 1946 $1.50 each for complete data package $2.50 --
- 19. Fahnestock clips 15 cents each or 8 for $1.00 --
- 20. Stancor output transformers primary imp. 2,000 ohms secondary imp. 3.2 ohms. Good for matching triode to speaker. $2.50 each.

... If you don't see it, ask..

- 21. Olde tyme phone plug $1.85 each --
- 22. SPECIAL SMALL SIZE 40 uf., 200V CAPACITOR.. $1.00 EA OR 3 FOR $2.75. --
- 23. SCREW BASE CAPS.. TAKE THE HUM OUT OF ANYTHING. 40 uf/ 40 uf at 450V $3.00 each or 2 for $5.00.
- 24. RESISTOR LINE CORD REPLACEMENT KIT. - 5 TUBE SET TYPE RLC-2 $4.50 - 4 TUBE SET TYPE RLC-1 $3.50 --
- 25. CAPACITOR BONANZA ASSORTED 20 / $1.00 20 PF. TO 0.5 UF. 200 TO 600V
- 26. OLDE TYME AC PLUGS.. $1.10 EACH OR 3/$2.95 --
- 27. Olde tyme toggle switch with short bat with ball $1.85 each. Good for AK-37, etc. Radiola 17, 18, etc. --
- 28. SPEAKER GRILL CLOTH, 2 PATTERNS.. $3.25 SQUARE FOOT. SEND FOR SAMPLE.

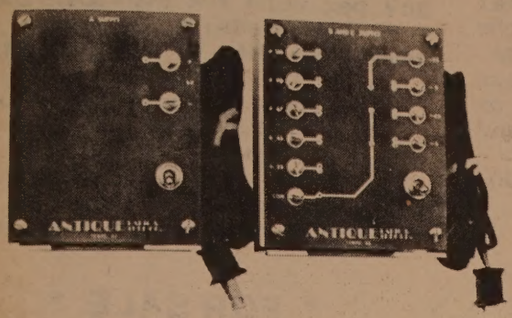
PLEASE NOTE: All items previously advertised are still advaiable plus much more. If you don't see it in the ad, write and we will respond immediately with a quote or, if possible, let you know where else to try if we don't have it or can't get it. Free flyer available anytime.

OUR SHIPPING POLICY ---------

We ask that you send sufficient funds to cover shipping and handling costs. Overages if under $1.00 will be credited to future orders or refunded if requested. Overages over $1.00 will be returned with your order when it is shipped. Unless specified otherwise, orders weighing 1 lb. and under will be mailed by first or third class mail. Order over 1 pound will be shipped by U. P. S. When making an inquiry, please send S.A.S.E.

PHONE AFTER 7:P.M. E.S.T. (301) 585-8776.

# NEW — POWER SUPPLIES



For Your Early Battery Radios Only 4″ × 5″ × 2″
Mount Inside Your Radio Cabinet

**"A" SUPPLY 6 VOLT 3 AMP** **$58**
Supply up to 12 OIA's. May be adjusted 4 to 7 volts

**"B" AND "C" SUPPLY, 100 MA.** **$74**
Taps at +135, +90, +67, +45 +22 and -3, -4.5 -9 & -22 volts

Our power supplies are brand new, electronically regulated and overload protected.
AC input 115 V. (or 230 V) ±10%. 50 to 400 HZ
"A" output regulated to ±1%. "B" and "C" outputs are ±5%. -B and +C are common.
Output ripple, both models, 3 mv peak to peak.

**SERVICE — We service all tube type radios. We can supply schematics and service information for most radios mfg'd in U.S. $1.00 per page.**

**ANTIQUE RADIO & TUBE CO.** 1725 W. University Tempe, Az. 85281

**YOUR COMPLETE SOURCE FOR TUBES***

*Wholesale & Retail. We have a complete store devoted entirely to sales and service of early radios and supply of tubes and parts.*

*2000 types in stock including 99's, Kellog 401's. Send SASE For Price List

MasterCard VISA

**(602) 894-9503**

# PUETT ELECTRONICS

P.O. BOX 28572 DALLAS TX 75228 MasterCard VISA

## THE 1983 ANTIQUE RADIO CATALOG NO. 21 $1.00 POSTPAID

# Mailbox

Dear Jim,

Last month I gave a talk to the local Society on "Neutralization, Ancient and Modern" which I will complete later this month with a practical demonstration of the neutralizing of a receiver. Almost at the same time arrived an issue of THE HORN SPEAKER covering the same subject. I was more than interested in that article as it was very close to way I had undertaken the subject. Great stuff, Jim.

I have just been informed by my friend John Stokes that his book on tubes (valves) is now off the press and will be available for sale world wide anyday now. Printed by Vestal Press in the U.S. Earlier in the project I proof read a lot of the chapters and it is all good stuff. Keep your eyes open for it, Jim. I still enjoy your paper as much as ever. Please keep up the good work. I will keep in touch.

With kind regards,
Your sincerely,
Arthur E. Allen
Radio ZL1JQ

EDITOR... Thank you for the kind words and please forgive the slowness in printing your letter. Yes, indeed, the book by John W. Stokes, 70 YEARS OF RADIO TUBES AND VALVES is full of good stuff. The place to write for the book in the U.S. is Vestal Press, Vestal, NY 13850.

Dear Friends:

I ran across your name in a little publication printed by Antique Press, Rossville, Indiana.

I have an Atwater Kent radio; it is in a steel which slides into a wood cabinet. It is model 55. The voice coil on the speaker has opened up. I could flip the tone control for awhile and it would come back on, but now it has quit completely.

Would you tell me if you have a coil or a complete speaker cone for this model? I am making a drawing of the speaker below, perhaps this will help. If you do not have such a thing, do you know where I could get one? If so please advise.

Sincerly,
Vernon D. Parnell
P.O. Box 457
Slaton, TX 79364

**EDITOR... We suggest that you try our advertisers or maybe a reader can help.**

THE HORN SPEAKER

I am in need of a schematic for an ERLA set model S-51. Have looked in all the usual sources without success. Can you help? If so, please send along with your invoice or first let me know the cost and I will remit immediately.

D. H. Brodie, W6PGQ
315 Cotton ST.
Menlo Park, CA
94025

Dear Jim,

I just found something out that I would like to pass along to fellow collectors. It worked for me and I found it by chance.

Radio Shack has power adapters to step down household voltage for various battery powered radios. I recently purchased an adapter for my 6 volt battery radios and it works.

The plug in on the adapter is as follows: The tip is positive, the sleeve is negative, so just clamp your radio7s connection to the proper place and you have your 6 volt set playing for about $6.00.

George Friedrich
7162 Jacqueline
Lake Lane
Custer, WI 54423

*The Editorial Group, Ltd.*
*P.O. Box 521, Palo Alto, Calif.* 94302

RADIOS WANTED

Am. Bosch 260-C...Fada 66(KY)...RCA K-64...Remler "29" Infradyne...Pilot "Dragon" 84...Bremer-Tully 80....De Wald 801...Lincoln R-9 & SW 33..... Most Any Kit Radio From The Late 20s & Early 30s.

SHORT WAVE CONVERTERS & ADAPTERS

Erla...Detrola...Grigsby-Grunow (Not Majestic)...Midwest (1937)...Leutz.. RCA SWA - 2...Silver-Marshall..... Walker...Stromberg-Carlson 69...Stewart-Warner 301, A-B-E...Or...?

MISCELLANEOUS WANTED

Sub-Panel Mntng. Brkts...Original Engraved Panels Late 20s...Cabinets... Panel Meters...SW Coil Sets...A-B-C Eliminators, Any Make...B-T AF Xfrmrs. Daven/Truphonic/Remler AF Amplifiers.

SASE For List of Items For Sale.

# CLASSIFIED

**AD RATE: 10 cents per word**
**20¢ per word for nonsubscribers**
**Photo ads: $5.00 extra**
**DEADLINE: 20th of the preceding month**
**List ads - 35 cents per line**
**AD SPACE:**
**Full page.....$65.00**
**Half page.....$35.00**
**Quarter page..$20.00**
**Multiple runs....20% discount**

## * FOR SALE *

**********

ELECTRICAL RESTORATION SERVICE: Anything from Scott's to Silvertones. Get benefit of experience at competitive rates. FOR SALE. A53C x-formers at $14 each or 2 for $26. We have unused 4 mf at 600V oil-filled caps with old style screw base (extremely low leakage) at $2.75 each or 4 for $10. Want auto vibrators, unused tube stock, and Sam's Auto Repair manuals, SASE to Dr. ZEE'S OLD RADIO HOSPITAL; P.O. BOX 31555; HOUSTON, TX 77235; after 7 p.m., Maury Zivitz at (713) 723-4254.

**********

A 45 YEAR COLLECTION OF OVER 30 COLLECTIBLES SUCH AS FEDERAL 59 AND 61, RADIOLA V, ZENITH, CROSLEYAND AK, 50 AC CATHEDRALS, TOMBSTONES AND CONSOLES, 4,000 PLUS NEW AND USED TUBES AND A TON OF MISCELLANEOUS AND TEST EQUIPMENT. ALL LOCATED IN AN ACTIVE RECREATIONAL AND ANTIQUE AREA ON THE SOUTH SHORE OF LAKE ONTARIO, MIDWAY BETWEEN TORONTO AND BUFFALO. ALSO THREE DESIRABLE PIECES OF REAL ESTATE IN SAME VILLAGE. 70% AT 10% ON R.E. CALL (716) 751-6053 EVENINGS.

**********

E. H. SCOTT SLRM (1945- METAL CABINET- VG- WORKS GREAT) MADE FOR NAVY; FANTASTIC FOR DX'ING, $175 -- HARVEY WELLS BANDMASTER DELUXE (1946- METAL CABINET- VG- UNTESTED) WITH P/S AND TUNER; SHIP IN2 PACKAGES; 50 LBS. PLUS 40 LBS., $30 -- PHILCO 49-607 (1949- PORTABLE CABINET- EXC- NOT WKG) 'ALLIGATOR SKIN' W/ROLL TOP WOOD FRONT, $15 -- RCA T6-1 (1935- TOMBSTONE CABINET- EXC- UNTESTED) TUNING EYE ADDED; 6 KNOBS, $40 -- STEWART WARNER 300 (1925- RECTANGULAR CABINET- MINT- UNTESTED) AUDIOS OK , $65 -- W. E. 10D SPEAKER (1922- HORN CABINET- EXC- WORKS) , $80 -- WILL TRADE WORKING POWER

Jim 525-6974

# IMPORTANT ANNOUNCEMENT!

HERE ARE OUR FEATURED ITEMS FOR THIS MONTH. THESE ARE BEING OFFERED AT SPECIAL SAVINGS FROM OUR REGULAR CATALOG PRICES JUST FOR READERS OF THIS PUBLICATION.

THESE PRICES LOOK GOOD BECAUSE THEY ARE GOOD. WE'VE CUT OUR REGULAR LOW PRICES SUBSTANTIALLY. TAKE ADVANTAGE OF THEM WHILE THEY LAST. THERE IS JUST ONE HITCH. YOUR ORDER MUST TOTAL AT LEAST $10. NO DISCOUNTS ALLOWED. OFFER EXPIRES FEBRUARY 28, 1982. All items subject to prior sale.

- ☐- 10 Assorted Volume Controls. Regularly $1.99, now just 99¢! Or 20 for $1.75!
- ☐- RCA "Nipper" bank. Beautiful porcelain, 10" high. Regularly $35. Just $20.
- ☐- UTC Coil Loading Device. Very early equipment. Regularly $8. Now only $5.
- ☐- Transistorized Vibrator Eliminator. 12 VDC. $3 in catalog. Now just $1.
- ☐- Old Transformer. 117 VAC in. Out: 100, 6.3, 16.3, 5 VAC @ .3A. 145, 6 VAC @ 4A. 15 VAC @ .26A. $19 in catalog. Just $14 here.
- ☐- Workshop telephone. Dial, excl. working cond. $10 in catalog. $8 here.
- ☐- Sams set 50-500 with folders missing, envelopes only in some cases. Priced at $90 in catalog. Yours for $50 (About 10¢ per folder).
- ☐- Practical Radio/Elec. Course, volumes I, II, III, damaged. $8 in catalog. $4.
- ☐- Rider TV indexs. Complete set is $7 in catalog. Your price is $3.
- ☐- Riders "How It Works" TV and Radio. 25¢ each in catalog. Both for 30¢
- ☐- Five pounds of electronic parts - relays, motors, solenoids, etc. Now $4
- ☐- A pound of old printer's type, quite rare. $3 in catalog. $1.50 here.
- ☐- Assortment of ten older tubes (our choice) normally $4. Just $3 here.
- ☐- Microphone stands normally $1 each or two matched for $3. Now pairs are $1.50
- ☐- Five Speakers normally $7. Now just $4. (good range of sizes)
- ☐- Rider Manual volume 13 (Radio) normally $10 in catalog. Just $8. (Limit 1)
- ☐- Supreme Publication's Master Index LISTS for $10 in catalog. $6 here.
- ☐- SWR Meter Field Strength Indicator. Was $5. Now just $2.
- ☐- Radio Reruns Cassettes of Dragnet show. Were $1 ea. Both for $1.50 (NEW)
- ☐- Telephone Handsets with mic. and earphone and coiled wire. Were $3. Now $1.50
- ☐- Electric Drill Bit Sharpener, automatically sharpens bits. Was $14. $10 now.
- ☐- ¼" Electric Drill, all metal. With key. Was $4. Yours for only $2.
- ☐- Extension speaker in wooden enclosure: 12x9x5½" Was $3. Now $1.
- ☐- 12 VDC rechargeable battery cell. New. High power. Was $6. Now only $3.
- ☐- Delco AM car radio, pushbuttons. Excl. Working cond. Was $4. Now $1.50.
- ☐- Coloring, Finishing and Painting Wood, Newell 1930. Was $7. Just $4.
- ☐- 1982 Buyer's Guide. Lists Manufacturer's addresses. Was $4 now only $1.
- ☐- Pencil soldering iron with resting stand. Was $3. Now $1.50
- ☐- 100 AMP Arc Welder. 220 VAC. Complete, brand new. Incl. all you need. Now $90
- ☐- Assorted fuseholders. Were 10 for $1 or 20 for $1.50 Now 25 for $1.
- ☐- Automobile rear window defogger. Was $4 in catalog. Now just $2.

## new books

HERE ARE THE LATEST EDITIONS OF ARS' FINE COLLECTION OF PUBLICATIONS. WE ARE CONFIDENT YOU WILL FIND THE 5 TWO USEFUL.

RECORDED SOUND. A concise history of the development of music boxes, player pianos, gramophones and the phonograph. Traces Edison's work with wax cylinders, the development of paper roll organs, the emergence of the Victor Talking Machine Co. and the invention of diamond stylus and disc records. A great deal of history is packed into this interesting booklet. RS-1 $2.50

COMMUNICATIONS - FROM SMOKE SIGNALS TO SATELLITE. The story of Morse and Vail developing the Morse code, the intriguing story of how an escaped murder got the public interested in telegraph, and how the telegraph was improved. The advent of the telephone is discussed and radio is covered. A nice reminder of how far we've come! C-1 $1.50

## CLEARANCE!

ARS IS CLEARING OUT ITS INVENTORY OF OLDER TUBES. MOST ARE NEW AND IN BOXES. TUBES ARE $2 EACH, BUT IF YOU ORDER MORE THAN TEN YOU CAN HAVE THEM FOR $1 EACH.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1AF4 | 1LN5 | 1S5 | 1T4 | 1Z2 | 3AU6 | 3B7 | 3BC6 | 3D6 | 3DK6 | 3Q5 | 5R8 | 5CL8 | 5R4 |
| 5T8 | 5U4 | 5W4 | 5Z3 | 6AC7 | 6AF4 | 6AG5 | 6AK5 | 6AL5 | 6AL6 | 6AN8 | 6AQ5 | 6AQ8 | 6AU6 |
| 6AU8 | 6AV6 | 6AX4 | 6AX5 | 6BK7 | 6BL7 | 6BQ5 | 6BQ7 | 6BN6 | 6BW8 | 6BY6 | 6BZ7 | 6C4 | 6CR6 |
| 6CR8 | 6CF6 | 6CG7 | 6CM7 | 6CM8 | 6CQ4 | 6DQ6 | 6EJ7 | 6EM7 | | 6GW8 | 6HS8 | 6J6 | |
| 6N6 | 6N8 | | | 6SA7 | 6SC7 | 6SF7 | 6SH7 | 6SK7 | 6SL7 | 6SN7 | 6T8 | 6V6 | 6W6 | 6X5 |
| 7AG7 | 7C5 | 7Y4 | 12A6 | 12A8 | 12AQ7 | | | 12AT7 | | 12AU7 | 12AV6 | 12AX4 | 12AX7 | |
| 12B6 | 12BQ6 | 12C8 | 12CA5 | 12H6 | 12J5 | 12L8 | 12K7 | 12K8 | 12SA7 | 12SN7 | 12Q7 | 12X4 | 19AU4 | |
| 19G3 | 35Z3 | 35Z4 | 35Z5 | 41E1 | 50B5 | 50L6 | 70L7 | 1619 | 9006 | | | | | |

PLEASE PRINT CLEARLY DATE _____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE NUMBER (in case we have a problem with your order)

AREA CODE _____ NUMBER _____

☐ I enclose payment of $ _____

ARS Electronics
646 Kenilworth Terrace
Kenilworth, IL 60043

HS-1

ARS

## CATALOG

☐ Check here if you would like to receive the next ARS catalog when it is available. Please include two FIRST CLASS stamps or 40¢ to cover costs. Thanks.


CEMBER 1921 QST'S FOR PERSONAL COLLECTION. KEN MILLER, K6IR; 16904 GEORGE WASHINGTON; ROCKVILLE, MARYLAND 20853. (301) 774-7709.

---

WANTED: SCOTT PHILHARMONC. Prefer Napier console. Dick Howe, 9318 Wickford, Houston, TX 77024 or call (713) 680-9945 collect.

---

WANTED: INDIVIDUAL RADIO REPAIR AND SERVICE MANUALS FROM 1930 TO 1950 FOR G.E., PHILCO, ZENITH, AIRLINE, CROSLEY, SILVERTONE, STEWART WARNER, EMERSON, AND R.C.A. INTERESTED IN ANY QUANITY. SEND PRICES. CHARLES TEAGUE, 330 SEMINOLE,BOULDER, CO 80303

---

HI-FI, TAPE, AUDIO, and retail magazines and brochures: 1945-55 only; Precedent FM tuner; early 1950's transistor sets. H. Layer, AV-SFSU, 1600 Holloway, San Francisco, CA 9412.

---

I PAY MORE FOR MIRRORED GLASS RADIOS (BLUE, PEACH). BOB, (305) 628-8755. P. O BOX 312, WINTER PARK, FLORIDA 32790.

---

WANTED: ANY TYPE OF PART FOR BATTERY CROSLEY OR PILOT RADIOS, AUDIOS, DIALS, TUBE SOCKETS, KNOBS, RHEOSTATS, CONDENSERS, ETC. ESPECIALLY NEED IMMEDIATELY DIAL POINTER FOR CROSLEY MOD. 5SSD. BOB, W6ME, 4178 CHASINSTREET, OCEANSIDE, CA 92056.

---

WANTED: T.V. GUIDES. ESPECIALLY PRE-1970. ALSO WANT ALL TYPES OF OCEAN LINER MEMORABILIA. DESCRIBE AND PRICE. RICHARD HEBERT, BOX 603 AUBURN, NY 13021.

---

WANTED: 1923 OR EARLIER RADIO NEWS, Science and Invention, Modern Electrics, Any pre 23 mags or catalogs. Also any Grebe receivers or amps. Also need HZ. Ray Garner, Rt. 1, Box 320, Big Sandy, TN 38221.

---

A.K. MODEL 84 CHASSIS WANTED IN REPAIRABLE CONDITION. SPEAKER NOT REQUIRED. 5-OHM GRBE THUMBWHEEL TYPE. RHEOSTATS ALSO WANTED. N. S. BRAITHWAITE, 1410 NORMAN DR., REDDING, CA 96002.

---

MANUAL TO "REWIND TUBES" NAME OF MANUAL "RECEIVING TUBE SUBSTITUTION GUIDE BOOK" BY H. A. MIDDLETON CATALOG NO.135 (215 PAGES). SEND PRICE TO CHARLES TEAGUE, 330 SEMINOLE, BOULDER, CO 80303

---

WANTED: UNRESTORED AK 82 AND 80. MUST BE COMPLETE. NOVAK. 4138C PATRICE, NEWPORT BEACH, CA 92663.

---

WANTED FOR MY 1950 ADMIRAL TELEVISION (model 20X11) horizontal output transformer (flyback), Admiral no. 79C28-1 or 79C23-3. Brightness pot, Admiral no. 75B11-10. Channel tuning knob, Admiral no. 33C 28-29. I am also looking for an early UHF tuner in excellent working condition to hook up to this set. Roy H. Yost, 535 Geneva Ave., Redwood City, CA 94061.

---

WANTED: CONTROL PANEL BOARD and knobs. Also want magnetic pickup head for Capehart radio-phono no. 407-E. Also want crystal pickups for R. C. A. Magic Brain record changer. Also want 1940 R. C. A. radio-phonograph combination no V-201. David Galanek, 111 Eastwood Rd. Bridgeport, CT 06606.

---

AM IN NEED of several PHILCO decals. C. C. Blanchard, 11731 S.W. 173rd St., Miami, FL 33177.

---

FEBRUARY

# THE HORN SPEAKER

1982



ART B CORBUS **5582
5704 11TH AVE NW *73*
SEATTLE
WA -98107


# PUETT ELECTRONICS

PUBLISHERS OF P.O. BOX 28572 DALLAS TEXAS 75228

ANTIQUE RADIO TOPICS &
THE CLASSIC RADIO NEWSLETTER

OVER 50 DIFFERENT BOOKS & PUBLICATIONS

GET THIS WORLDS GREATEST RADIO CATALOG

## 1982 CATALOG NO. 20

OUR NEW 1982 CATALOG NO. 20 WILL BE MUCH LARGER THAN ANY OTHER CATALOG WE HAVE PUBLISHED. PRICES OF MANY ITEMS WILL INCREASE DUE TO INFLATION, INCREASED PRICES WHICH WE PAY TO OUR SUPPLIERS AND INCREASED PRINTING COSTS. PLEASE DO NOT ORDER FROM AN OBSOLETE CATALOG OR PRICE LIST AFTER 1 JANUARY 1982.

THREE WAYS TO OBTAIN A COPY OF OUR 1982 NEW CATALOG NO. 20:

(1) SEND ONE DOLLAR AND YOU WILL BE ON OUR CATALOG MAILING LIST. (SHIPMENT 20 DECEMBER 1982).

(2) FREE! WITH ALL ORDERS WHICH AMOUNT TO $10.00 OR MORE.

(3) FREE! IF YOU RENEW YOUR SUBSCRIPTION FOR 1982 TO ANTIQUE RADIO TOPICS and THE CLASSIC RADIO NEWSLETTER.